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MEN AND CREATURES IN UGANDA



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March 1933

MEN AND CREATURES IN UGANDA



By

SIR JOHN BLAND-SUTTON, BT.

WITH NINETY-FOUR ENGRAVINGS ON WOOD



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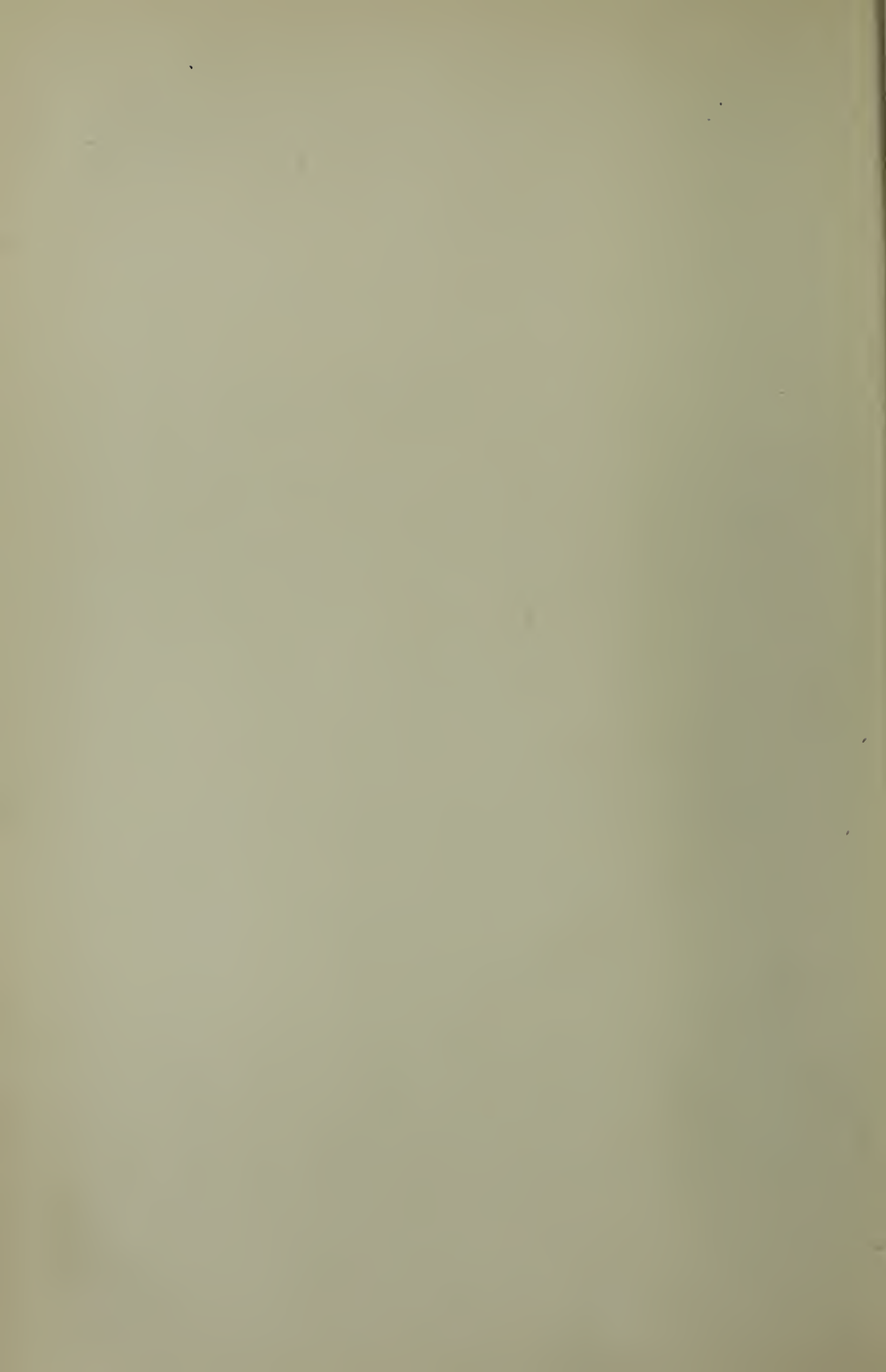
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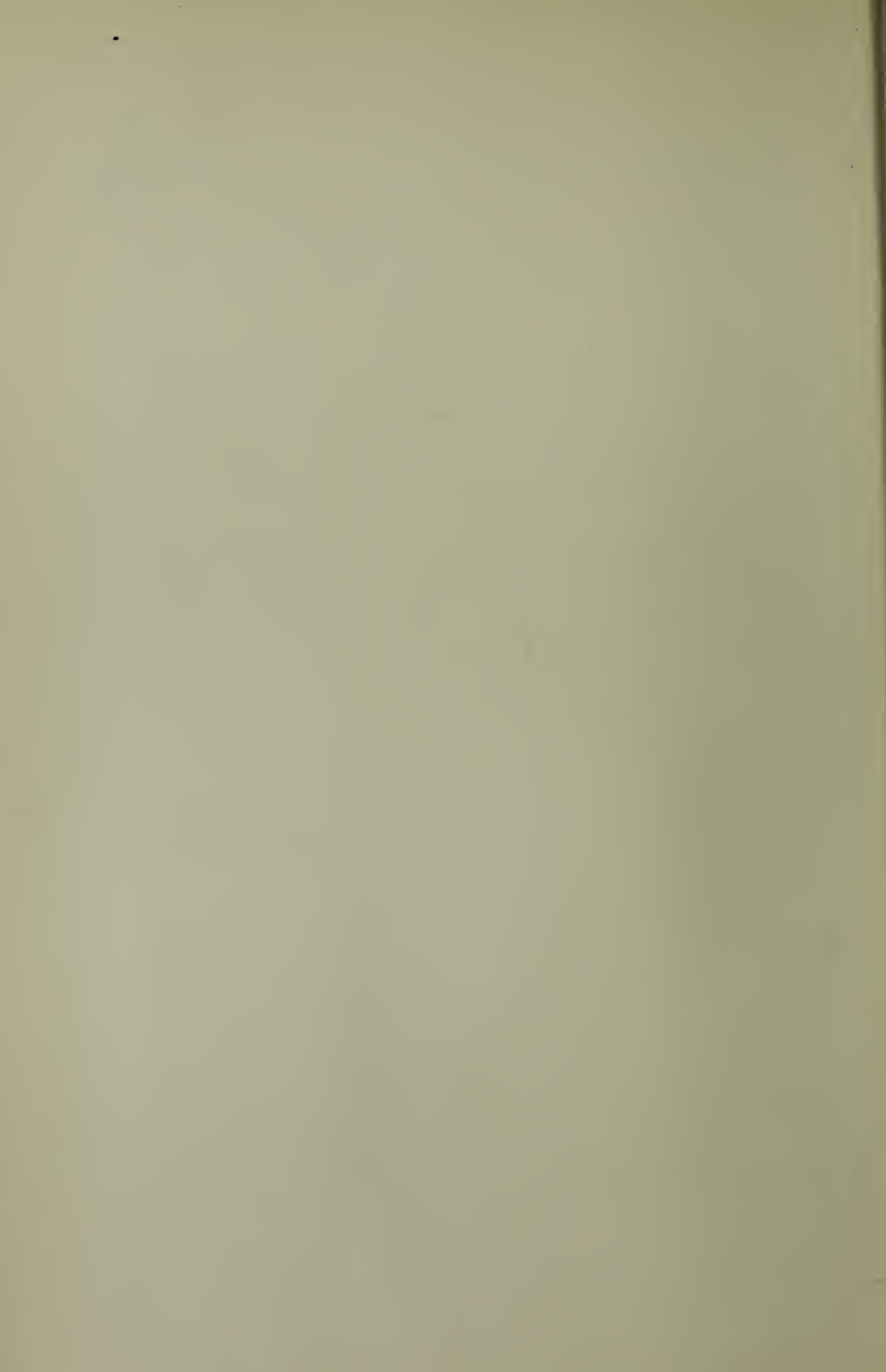
INTRODUCTION

UGANDA is a British Protectorate in Eastern Equatorial Africa between Lake Victoria and Lake Albert Edward. The Kingdom of Uganda surrounds the northern shore of the great Lake Victoria lying under the equator; this lake, discovered by Speke in 1862, is the source of the Nile.

In 1910 I was anxious to see something of this wonderful lake, and the country round it; also the Rift Valley with its volcanoes; forests in which mighty beasts roam, and lakes visited by extraordinary birds. Lions dominate the "rolling seas of grass"; the rhinoceros shows resentment to trespassers among bush and scrub; elephants use the dense forests as retreats; and crocodiles lie in wait in nearly all the lakes ready to knock over and drown any unwary beast or bird that comes within reach of their dangerous trap-like jaws or treacherous tails.

I started from Mombasa with Comyns Berkeley and in due course reached the lake, visited its northern shore and the head-waters of the mighty Nile. On the return journey we went "On Safari" in the Rift Valley.

On my return to England I published an account of the journey under the title *Man and Beast in Eastern Ethiopia*. As this has long been out of print I have been induced to write a popular account of the journey under a modest title.





MEN AND CREATURES IN UGANDA

I

MOMBASA—THE GATE BY WHICH COMMERCE AND CHRISTIANITY ENTERED EAST AFRICA

AFTER fifteen days on the high seas, eyes and mind grow weary of the interminable ocean. Watch the excitement among the passengers when the news "land in sight" circulates round the decks, saloons, and smoking-rooms. The majority of passengers soon weary of the sea, even when the weather is uniformly fair and sunny. Some become quarrelsome, many pass sleepless nights, especially in tropical and subtropical regions, and few really enjoy themselves.

We reached Aden in a good P. & O. and transhipped into a British India ship in order to reach Mombasa; her decks were hampered with mules from Somaliland and pilgrims. We were delighted when the ship entered the harbour of Mombasa at daybreak.

We landed on the second day of the New Year 1910, and found Vasco da Gama Street adorned with flamboyant flowering trees. Brilliant bougainvilleas covered the walls of the houses; hid the wooden pillars of the

verandahs of the Law Court, and decorated the trunks of the huge leafless baobabs.

An excellent road bordered by palms, mangoes and



Fig. 1. The Baobab or Monkey Bread Tree.

papaw trees traverses the island from the old port to Kilindini.

The baobab, or monkey-bread tree, reputed the biggest tree in the world, abounds on the island and the adjacent coast-land. I took the circumference of the trunks of some of these trees, and found several exceeding sixty feet. There are instances of a girth of one

hundred and twelve. These trees leaf during the rainy season. Their bare branches, with the pendulous fruit, recall strongly the human beings transformed into trees as represented in Gustav Doré's illustration of Dante's seventh circle in the Inferno. Their naked weirdness excuses the belief held by some of the native tribes that they are inhabited by ghosts. The baobab is useful to the natives, for they eat the fruit, and the outer shell forms an excellent calabash in great demand for making water buckets. Its wood is light, soft, but useless. The most northern baobab grows in the Palace garden, Khartoum ; it was planted by Schweinfurth.

When the tide is out one can walk down to the shore of Mombasa harbour ; this is a simple matter, by a pathway at the side of the old fort built by the Portuguese and now used as a jail. Mombasa is a coral island, and has, like the adjacent coast, a fringing reef. At ebb, it is easy to walk across the reef which is covered by a few inches of water. Even at high tide the water is only a few feet in depth, but in the comparatively narrow interval between the reef fringing the land and that surrounding the island the water suddenly deepens to sixteen fathoms, and navigators must exercise extreme care in entering the harbour. A steamship feeling its way along the narrow channel got on the reef, and all efforts to help her into deep water had failed. She was being dismantled.

The parts of the island bordering the sea are thick with vegetation, and the castor-oil plant is sure to attract attention. Another common plant is the Cape gooseberry. The wealth and beauty of the butterflies flitting among the plants impress the visitor with the fact that he is in a tropical region. The birds are

attractive, especially the weaver-birds; some of them build nests among the bougainvilleas in gardens bordering the roadway. The comparative sanctity of birds is shown by the freedom with which they use the haunts of men.

Swallows build in the verandah of the Court of Justice; weaver-birds flit through the branches of the trees in the Club garden, lizards run along the railings, and in the silence of the library it is amusing to watch geckoes dart across the ceiling catching flies. Every part of the island teems with life.

II

THE UGANDA RAILWAY

U.R. These are the initials of one of the most romantic railways in the world. It starts from Mombasa and follows mainly the old caravan route to Kavirondo.

After leaving Mombasa and crossing the bridge over the Makupa creek the line ascends a steep grade giving an excellent view of the island and glimpses of the sea as it runs through groves of coco-nut palms, orange-trees, pomegranates, and banana plantations. Later the railway traverses a desert, covered with scrub and small trees, whose timber is large enough to be used as fuel for the engines.

About 280 miles from Mombasa it enters the Athi Plain, and around Simba station, as the name indicates, lions are plentiful. Rhinoceros and giraffe are occasionally seen in this section of the line. The amount of game on the plain varies with the condition of the grass. When favourable, hundreds of zebra, herds of hartebeest (*kongoni*) and wildebeest (gnu) will be seen. Ostriches are often on view stalking one behind the other, as self-conscious as bridesmaids walking up the aisle of a church in the wake at a fashionable wedding. These birds mingle with zebras on the grazing-grounds. Scattered in small herds, often close to the line, Thomson's gazelles will be recognized. These antelopes as well as Grant's gazelles mix with the hartebeest and zebra herds.

In the distance vultures are sometimes seen flying

around in watchful circles. This may show that a lion is busy feeding and they are waiting to play the part of scavengers when the beast has finished his meal and left the carcass. After crossing the Athi River the line runs to Nairobi, 327 miles from Mombasa.

NAIROBI

Nairobi is the capital of the Ukamba Province. The chief office of the Uganda Railway is in this town : the locomotive and carriage works occupy an extensive area near the station. The railway works are worth a visit ; natives who a few years ago were running about the country naked, may be seen working steam-hammers and riveting boilers.

The town is situated on the river of the same name, and occupies a place where formerly lions roamed and roared. In 1909 a lion walked up the principal street at eight o'clock in the evening, and a doctor on a bicycle, ran into the beast, fortunately without harm. I met the doctor a few days later, and he confirmed the story. He said : " I do not know who was the most astonished—myself or the animal, but when I realized it was a lion I got away."

Next day I interviewed the Game Warden and asked him, what could bring a lion into the main street at dusk ? He said : " Come with me." We went into the town and within a short distance of the place where the doctor encountered the lion, there was a shop where curiosities, monkeys, and birds were sold. In a strong cage there was a fine young lioness for sale !

The surrounding country holds wild animals in profusion and an official who lived on the outskirts of the town told me that his wife found snakes in the

garden, that he had shot a *kongoni* (hartebeest) in the same garden, and sometimes amused himself by shooting a zebra from the verandah. I am indebted to him for the following story: His daughter went to her bedroom at sunset and noticed a leopard under the bed.



Fig. 2. Thomson's Gazelle.

She quickly retreated, closed the door, and warned him. He succeeded in killing the animal—a young one.

The portion of the town lying along the river was formerly a papyrus swamp, and this beautiful rush still grows along its margins, and the land by the river is now a fertile garden where mealies, cabbages, French beans, bananas, and pomegranates flourish.

We spent several days here, making the acquaintance of many officials, all willing to relate their experience and help us to some knowledge of matters connected with the country, the natives, the animals, the birds, and the pests.

From the Sports Ground the snowy summit of Kilimanjaro is usually visible in the afternoon; and about four o'clock the beautiful snow-clad majestic peak of Kenya, glorified with clouds of sunset, appears unveiled above the clouds.

After leaving Nairobi the railway climbs the slope to Kikuyu station (340 miles from Mombasa), passing through forests which shelter elephants to Escarpment station, and here reaches the edge of the famous Rift Valley at an elevation of 7390 feet above sea-level. The train descends the ravine to Kijabe, which marks the limit of the Ukamba Province.

The view of the Rift Valley from the escarpment is inexpressibly grand, with the great mass of Longonot rising from the floor of the valley. The descent to Kijabe station is fascinating. The line passes numerous viaducts built at a great height above ravines. The station is half-way down the descent to the valley, and at this point the view is magnificent. Above are seen the well-wooded hills; below, the slope to Lake Naivasha, and beyond is the Mau Escarpment on the opposite side of the valley. In the descent from the Kikuyu Escarpment to the floor of the valley the line descends 1400 feet, then passes along the valley to Naivasha station (390 miles) within sight of the lake. Along this beautiful valley game of all kind is plentiful: antelope, zebra, ostrich, and birds of large size or beautiful plumage can be seen from the train. This section of the

line gives also weird scenery caused by the changing colour along the escarpment and around two extinct volcanoes, Longonot and Suswa.

The Rift Valley in the neighbourhood of Lake Naivasha is 6300 feet above the level of the sea ; its floor is clothed with grass and clover, and here and there a collection of small trees. The turf when covered with herds of cattle and flocks of sheep is like English park-land, except that the cattle are humped and Thomson's gazelles can be seen running among the cattle.

The third section of the railway ends at Nakuru, a town lying under the extinct volcano Menengai, and is approximately the centre of the Rift Valley. This town is the starting-point of excursions to Lake Baringo.

After leaving Nakuru the train climbs the Mau Escarpment (460 miles), where it attains an altitude of 8300 feet. Here it leaves the Rift Valley and traverses the fertile land and the forests of large trees in the Kisumu Province. Next it descends through the Nyando Valley to Muhoroni, where the country becomes comparatively flat. The most conspicuous features in this part of the route are the enormous number of acacia trees, the kigelia, and huge candelabra euphorbias.

The kigelia is a curious tree found everywhere in Uganda. It is a big tree with leaves similar to those of a walnut. The flowers are tulip-like, reddish purple or yellow and grow on pendants two to six feet in length. The seed-vessels hang on the long stalks and are one or two feet in length with rounded ends and as big as German sausages. The settlers call it "sausage tree."

From Muhoroni the railway runs under the Nandi Escarpment and reaches Kisumu, its terminus at Kavirondo Bay, Lake Victoria, where a comfortable

steamboat used to convey passengers to Uganda. The extension of the Kenya and Uganda Railway to Kampala across the Ripon Falls has cut out Lake Victoria as a regular route to Entebbe. (See Fig. 7.)



Fig. 3. The Kigelia or Sausage Tree.

Whilst waiting for the steamer to start we spent an hour watching the fishermen on the lake shore, as well as amusing ourselves with the crowned cranes, which could be approached as easily as the fowls in a barn-yard.

Throughout the greater part of a railway journey from the coast the country presents an astonishing and varied panorama. After leaving Mombasa with its heat, humidity, and fertility, the line slowly climbs a long extensive slope covered with scrub, and unsuitable for cultivation. It may be described as coarse grass, with trees here and there. An extensive tract covered in this way is known as the Nyika (wilderness or desert).

From the moment the train leaves the Salisbury Bridge attention is sure to be arrested by the brick-red earth. A large part of the Protectorate is covered with a sheet of lava, which is gradually undergoing disintegration and forms a fertile soil.

It is curious to see the huge ant-hills arising by the side of the railway, many of them ten feet high and red as any chimney-pot in rural England. Some of them present several openings and look like a cluster of chimney-pots. Occasionally a tree will be found growing in the midst of an ant-hill, and here and there ant-nests are seen in trees.

Around Nairobi, and especially in the Kikuyu country, honey-barrels hang in the trees, and they form curious objects as seen from the train. (See Fig. 4.)

The temperature throughout the journey varies within very wide limits. It is a curious and pleasant experience to pass from the moist and sticky heat of the coast to the dry and agreeable air of the Ukamba Province, but it is surprising to wake up in the early morning on the Athi Plain, in the Kikuyu Forest, or at the Mau Escarpment shivering with cold and to find the temperature at, or very little above, the freezing-point.

As we leave the coast, tropical vegetation is gradually replaced by the prickly acacia and the euphorbia.

Around Nairobi the landscape is beautiful with the calodendron, hibiscus, salvia, ficus, and wild coffee.



Fig. 4. Honey Barrel in a tree in a Kikuyu maize shamba.

The Kikuyu Forests abound in junipers, wild olives, brambles, violets, clover, and bracken. Higher still comes the scrub, the prickly bush, and the acacia.

The chief of tribes inhabiting the district through which the line runs are Kikuyu, Masai, Kavirondo, and Nandi. The Masai since 1924 occupy a Reserve.

In a railway journey through 580 miles of country it is probable that examples of all these races will be seen. Some come down to watch the train from sheer curiosity. Others walk along the footway by the line or have their cattle near by. Many are as interested in the white passenger as the latter is curious about them. Some come to barter or to sell spears and other curiosities.

Among the various products of civilization introduced into East Africa, there is probably none which the native find more useful than the kerosene can; it is appreciated by them and has replaced gourds in their domestic economy.

It is used as a bucket for drawing water from wells, or as a pail for its conveyance. When such a can is divided and a hole made in the end of either half it becomes a useful funnel. On visiting a village it is



Fig. 5. The kerosene can has largely replaced gourds for the conveyance of water in British East Africa.

common to see these cans used as sauce-pans, baking-tins, ovens, and parrot cages; receptacles for *pombé* (beer); boxes for clothes or books, and travelling trunks; one can well packed is a sufficient as well as



Fig. 6. The Simple Life. Nandi woman and baby.

a convenient load for a porter to carry on his head, and a pair are easily adjusted as panniers for donkeys.

The European settlers use the kerosene can as tubs for shrubs and flower pots; the edges of the cans when used

for flowers are cut into triangular patterns, much in the same way as the Masai herdsmen clip the ears of their cattle. When the kerosene can can no longer hold liquid, it is hammered out and the square sheets serve to roof huts.

Travelling along the Uganda Railway from Mombasa to its lake terminus at Kisumu, the tourist will see zebra, hartebeests (gnus), Thomson's gazelles, Grant's gazelles, wart-hogs, and bushbuck. With good luck he may also see elands, giraffe, and the rhinoceros, and, if exceptionally lucky, a lion or so in the early morning, and hyænas in the late afternoon.

Of birds there are, ostriches, bustards, eagles, hawks, vultures, and shrikes sitting on the telegraph wires. He will recognize the glossy starling, drongo, weaver birds, chats, the crowned crane, hornbill, coly, swallow, bee-eater, stork, oxpecker, and the secretary bird.

The Uganda Railway is unique of its kind, for it is probably the only railway in the world where monkeys swing on the telegraph wires; giraffes break them with their long necks in crossing the track, and the rhinoceros tilts at telegraph poles in true quixotic style. As a rule, the laugh is with the animal. On rare occasions a lion promenades a platform and interferes with local traffic.

III

LAKE VICTORIA, THE GREATEST LAKE IN AFRICA

It is remarkable that a lake, with a shore-line of 3000 miles and an area of 25,000 square miles, lying in the midst of a thickly populated region of East Africa, should have remained hidden from the civilized world until Speke discovered it in 1858. Now Lake Victoria is daily traversed by steamers with regular ports of call, engaged in conveying passengers, tourists, and cargo.

Kisumu (Port Florence) on the shore of Kavirondo Gulf, is a nearly land-locked inlet about thirty miles long, from two to three miles wide. This gulf is on the north-eastern shore of the lake, and the channel by which it communicates with the main water is almost blocked with islands.

The Nile leaves the lake at Napoleon Gulf on the northern shore. As the steamer enters this and approaches the landing stage at Jinja there is nothing to lead one to suspect that the Falls are so near. A prominent bluff pushes in to the lake between the landing stage and the Falls. In order to see the latter one must leave the steamer and walk over a low grass-covered hill, till suddenly the Ripon Falls, or Cascades of Jinja, come into view. The river at its origin divides Uganda on the west from Usoga on its east bank. Speke on his second journey (1863) saw the Falls from

the Uganda side ; tourists are now conducted to them by a well-kept footway on the east side. As we traversed



Fig. 7. Map of Lake Victoria.

The spelling adopted is the same as that found on the map of the lake constructed by Commander Whitehouse and issued by the War Office, 1910.

this, humped cattle grazed with a flock of buff-backed herons picking ticks from their backs. On reaching the Falls we found the rushing water carrying over large fish ;

the natives were busy securing some of them with spears. The ferry, as in Speke's time, runs across the gulf above the Falls, but the crocodile and hippopotamus have retreated to the deep and silent pools a mile or so below, where the shores, thickly covered with trees



Fig. 8. The Screaming Sea-Eagle lives around the
“birthplace of the Nile.”

reeds, and rushes, are rendered dangerous by the dreaded tsetse-fly.

The rocks and trees in the river immediately below the Falls, are crowded with herons, cormorants, and egrets. One of the most conspicuous birds is the Vociferous Sea-Eagle. This, the handsomest of all the sea-eagles with its white head, neck, breast, and tail, but chestnut

belly sits superbly perched for hours on the top of a high tree or telegraph post, uttering loud piercing screams. It takes little notice of man, for when I shot a bee-eater perched on the lower branches of a tree, a sea-eagle in the tree-top took no notice.

In the cool of the afternoon we lingered, charmed and fascinated by this delightful spot. As the light began to fade we stepped into a native "dug-out" above the Falls and were paddled to the steamer lying in the lake.

Certain phenomena connected with the lake which are worth consideration. The water of the main lake is deep blue, sweet, and good to drink, but in the bays it is dark and muddy; it varies in depth, from a few feet in the shallow bays to 280 feet in the main lake. The depth of the water naturally changes according to the wetness of the seasons, but apart from this, it is asserted that the surface of the lake has been slowly sinking since 1878. Many bold headlands round the coast were formerly islands, and many islands are separated from the mainland by narrow and often shallow channels. In the morning there is usually a land breeze from the south-east and towards evening from the lake to the land. This action of the wind causes the level of the lake at Kisuma to be twelve inches higher in the afternoon than in the morning.

The movements of the curious papyrus islands are associated with these breezes. Many of the bays and creeks are filled with the beautiful papyrus rush, and the Victoria Lake, like other large bodies of water, is occasionally subject to violent storms. Large masses of papyrus then move out from the banks, and the morning land-breeze drives them into the lake, and the evening breeze brings them back to the shore. Papyrus islands

are usually seen in a voyage on the lake ; they form pretty objects floating about in an irresponsible manner and occasionally cormorants and crocodiles rest on them. A papyrus island the size of Trafalgar Square is sometimes occupied by a flock of egrets, and has density enough, in virtue of the long submerged roots of the rushes, to support a hippopotamus. Captain Gray informed me that on one occasion, as his steamer entered Kavirondo Gulf, he found the water so crowded with these floating islands that he had to steer the vessel with great care and with some difficulty.

The shallow parts of the bays are also occupied by that troublesome plant *Pistia stratiotes*, which is one of the constituents of the *sudd*, which is chiefly composed of papyrus rushes, reeds, feathery grass, and occasionally the pith tree—ambatch. These are woven together by creeping plants of the convolvulus order.

The Victoria Lake may be regarded as a huge reservoir with one outlet, the Ripon Falls. Its chief affluent on the west is the Kagera River, and the Nzoia on the east.

The lake is visited by electrical storms of extraordinary violence. I heard much about these electric displays, and had the good fortune to witness one from the steamer's deck. The night was very dark, and the sky became illuminated by almost persistent streams of yellow and blue electric light. The effect could only be described as horrible. When the steamer occupied the vortex of the storm, it seemed as if the lightning hissed as it rushed into the water. Whilst these streams of electric fluid were coursing downwards the clouds were suffused with broad cascades as well as streams of lightning resembling the aurora borealis. The instan-

taneous crashes of thunder following on the electric discharges resembled the detonations of huge shells. These storms are very common and destroy the lives of men and beasts as well as property. The boat from which we witnessed this terrible display had a piece of the mainmast detached by lightning in a previous voyage.

The frequency and the intensity of such storms is explained by the fact that the hills, especially on the north-eastern shores of the lake, contain ironstone in large quantity, and especially on the Nandi Escarpment. Standing on the hills above the escarpment the storm seems to be beneath the feet of the observer; the lightning appears to strike the face of the cliffs.

In the rainy season water-spouts occur, so that a voyage on the Victoria Lake may be much marred by wind, storms, and rain as a voyage on the ocean. There is a curious and also unpleasant phenomenon occasionally met with in the shape of mosquito clouds. One morning whilst crossing in the neighbourhood of the Buvuma Archipelago I noticed in several directions an appearance like clouds of smoke, and at first thought they came from fires on the islands. On watching them closely and remembering that the surface of the lake is nearly four thousand feet above sea-level I thought they might be clouds. Then the columns assumed fantastic shapes and gyrated over the lake, condensing, or thinning out. Then one large cloud, in the form of a hollow cylinder, approached, encompassed the steamer, and enveloped it in myriads of gnats. These winged clouds are known to entomologists as "dancing-swarms." The eggs of the mosquito are hatched in warm water, and the larval and pupal stages are passed in this medium. When the

pupæ are ready to hatch they rise to the surface, emerge from their cases, dry their wings and fly away. The natives around the lake catch these gnats by means of grease and make them up into an oily kind of cake and eat them.

A description of Lake Victoria would be incomplete without some consideration of a remarkable animal, the marsh-buck or *situtunga*; a bird, the jacana or lily-trotter; the mud or lung-fish; and the most beautiful of all rushes, the papyrus.

The first is the animal known as Speke's antelope, after the distinguished traveller who discovered it on his second journey (1862). The buck's horns are spirally twisted. These antelopes have elongated hoofs which enable them to walk on the submerged reeds and mud of the swamps in which they live. The skin which covers the back of the pastern is hairless, thick, and horny: thus further augmenting the supporting area of the foot. The marsh-buck spends most of its time in the water, standing among reeds with all but its head and horns submerged: it can take tremendous leaps and move about at a great pace.

Speke's original specimen was caught near the lake in some high rushes. The only food it would take was the tops of the papyrus rush. Although it ate and drank freely and lay down very quietly, it always charged any person who went near it. No other observer has seen evidence of ferocity in the marsh-buck. I have watched one of these animals in the Zoological Gardens and never remember to have seen an animal in confinement which appeared so unhappy. The *situtunga* was common in the swamps around Uganda and on some of the uninhabited islands of the Sesse Archipelago. It is

now known that this antelope is a host for the germs of the tsetse-fly, the cause of sleeping sickness.

Selous, when hunting these buck on the Chobe River, a tributary of the Zambesi, described the search for these



Fig. 9. Speke's Antelope.

The bird in the corner is a lily-trotter (*Jacana*) with elongated claws which enable it to move quickly over the floating leaves of aquatic plants.

retiring animals among immense beds of reeds and papyrus as like looking for needles in a haystack. The natives obtain them in the following way. When the animal is approached it immerses the whole body, leaving

only the nose and tips of its horns above water, trusting to be unobserved, but the natives paddle up and spear it at close quarters.

The unusual development of the hoofs of Speke's antelope is paralleled by a similar modification of the toes found in a curious bird living on the lake and often called the lily-trotter, from the dainty way in which it walks over the broad leaves of aquatic plants in its search for insects. (See Fig. 9.)

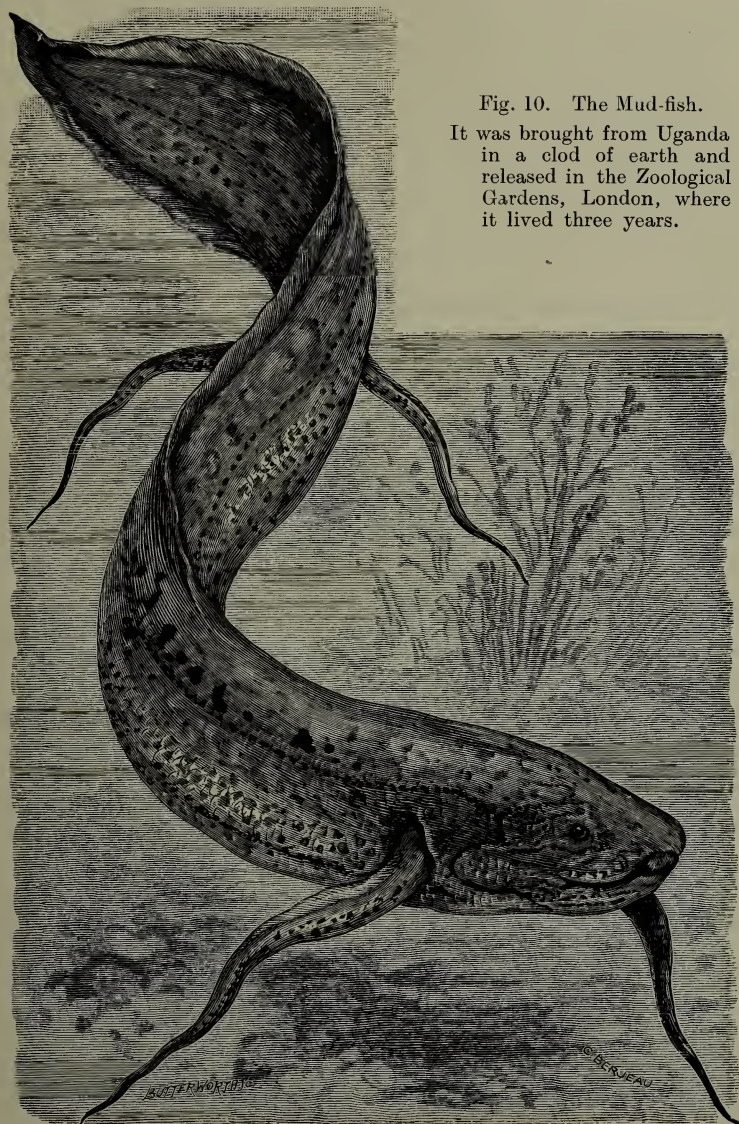
This bird is known to ornithologists as the jacana, and belongs to the same order as plovers, curlews, and snipe. It has a body like a moorhen and legs like a coot, but the toes and claws are enormously lengthened, and the bird spreads them out as it walks over the water-plants. When danger threatens they crouch or partially submerge themselves.

THE MUD-FISH. This inhabitant of the lake is known to the zoologist as *Protopterus*. The natives of Uganda call it *Mamba*, and appreciate it as an article of diet.

It has a long cylindrical body like an eel and sometimes attains a length of six feet: it is remarkable in many points and especially from the fact that it has lungs as well as gills. In the dry season the marshes in which this fish lives dry up, and to meet the change it works its way into the mud to the depth of eighteen inches, and coils up at the bottom of the burrow, where it makes a sort of cocoon of hardened mucus secreted by glands of its skin. Thus sequestered the fish breathes entirely by its lungs for half the year; in this condition the earth may be dug up and the ball of earth with the fish in it may be transported anywhere. When placed in warm water it wakes up and resumes the double method

Fig. 10. The Mud-fish.

It was brought from Uganda
in a clod of earth and
released in the Zoological
Gardens, London, where
it lived three years.



of breathing. In its ordinary surroundings it remains in the cocoon until the rainy season floods the marshes.

The mud-fish is very voracious, devouring frogs, worms, insects, and crustaceans. It also bites and eats its fellows. Indeed, Newton Parker, who wrote an admirable account of it, states that these fishes are difficult to keep alive in an aquarium for any length of time owing to their cannibal habits even when supplied with abundance of food. Their scissor-like teeth cause terrible wounds and the lake fishermen dread their bite. The mud-fish has two pairs of filamentous fins, and of these the pectoral is longer than the pelvic pair, and occasionally one of these fins is bifid. Some years ago these fishes were exhibited in a tank in the Zoological Gardens and I noticed that one of the fins was bifid. The keeper told me that the deformity was due to its companion biting off the free end of the fin, and as the part grew again it became double. I am satisfied that this is a good explanation. It certainly accords with what we know of the lizard's tail, for when a lizard loses its tail and regeneration occurs, the new portion is often bifid and sometimes trifid at the tip. When the ends of the tail are bitten off, the parts are regenerated but never attain normal length.

When the mud-fish burrows in the mud, the mouth of the flask-like cavity which surrounds it is closed by a lid with one small aperture. The margins of this are pushed inwards to form a funnel for insertion between the lips of the fish. Boulenger states that when a straw is passed down the funnel to the mouth of the fish, if alive it immediately utters a cry produced by the expiration of the air from its lungs. When the clod is softened out

care must be taken that water does not enter the funnel or the fish would be suffocated.

The papyrus is a beautiful rush with a long green stem sometimes twenty feet high, which is not completely circular. The stems are crowned with tufts of delicate filaments, which were used by the ancient Egyptians to make garlands for the shrines of the gods. The leaves



Fig. 11. A Raft made of dried Papyrus stems. Used by the Kavirondo on Lake Victoria.

are apple-green. The pith used for making writing material by the ancient Egyptians occupies that portion of the stem which lies beneath the surface of the water. The thick stem when dried is useful for making rafts. The papyrus flourishes in the swamps of Uganda, around the shallow margins of Lake Victoria and in the White Nile, but is extinct in Lower Egypt.

IV

LAKE VICTORIA (*continued*): ISLANDS, BOATS, AND HIPPOS

THE lake abounds in islands some of large size ; others are mere rocks sticking out of the water and serve as basking-places for crocodiles.

The natives called Basesse are excellent boat-builders, skilful paddlers, and expert boatmen. The boats are peculiar in construction : the keel is formed from a tree-trunk shaped externally by hatchets and hollowed in part by hatchet and in part by burning. The depth of the boat is increased by lateral planks about an inch thick hewn from tree trunks. They have no saws. The planks are sewn to the keel and to each other by palm fibre. The holes in them for the threads are pierced with red-hot awls, and where these planks meet to form the bow and stern of the boat a triangular piece of wood is let in to tighten them. One plank is not long enough to extend the entire length of the boat ; two may be needed. Where the edges of two planks overlap a narrow strip of wood is firmly fastened to make them watertight. A strong spar traverses the sides of the boat near the prow and projects on each side beyond the planks for a handle to enable the boat to be drawn ashore. The narrow seats are fastened into the boat in a peculiar manner. When the side-planks are fashioned, semicircular notches are made in corresponding parts of

the adjacent planks which receive the ends of the seats. The seat has a rounded knob at each end ; this knob is received in the holes formed by the apposition of the semicircular notches in the planks and projects on the outer surface of the boat. When the seats are in position, a line of knobs is seen in the line of junction formed by the union of the first and second row of planking. The thwarts, therefore, give firmness to the boat.

In addition to the sharp beak formed by the keel a movable prow known as the "prow of peace" is added, and to make it firm, a strong cord passes from the prow to the bow of the boat : this line is usually hung with grass, or fibre, cut to a convenient length ; the end being often surmounted with horns. When completed the boat is usually smeared with red Uganda clay. It is driven by paddles about three feet long ; the paddlers sit with their backs to the steersman, who turns the vessel in any desired direction by using his single paddle like a lever on the right or left side. In the calm weather a boat containing twenty paddlers can be impelled at a quick rate and for a long time, to the tune of monotonous songs. It is curious to watch and listen to such a boat in motion. The rhythmic movements of the paddlers would do credit to any crew ; the handles of the paddles simultaneously strike the sides of the planks and produce a loud knock. The centre of gravity lies back in the boat, so that the fore-part is well out of the water ; each is provided with a baler.

Some boats, specially those built for war purposes, accommodate a hundred paddlers. In war-time the false prow is removed and its point serves for a ram.

The skill and daring of the Basesse and Wavuma boatmen are proverbial. When Stanley circumnavigated

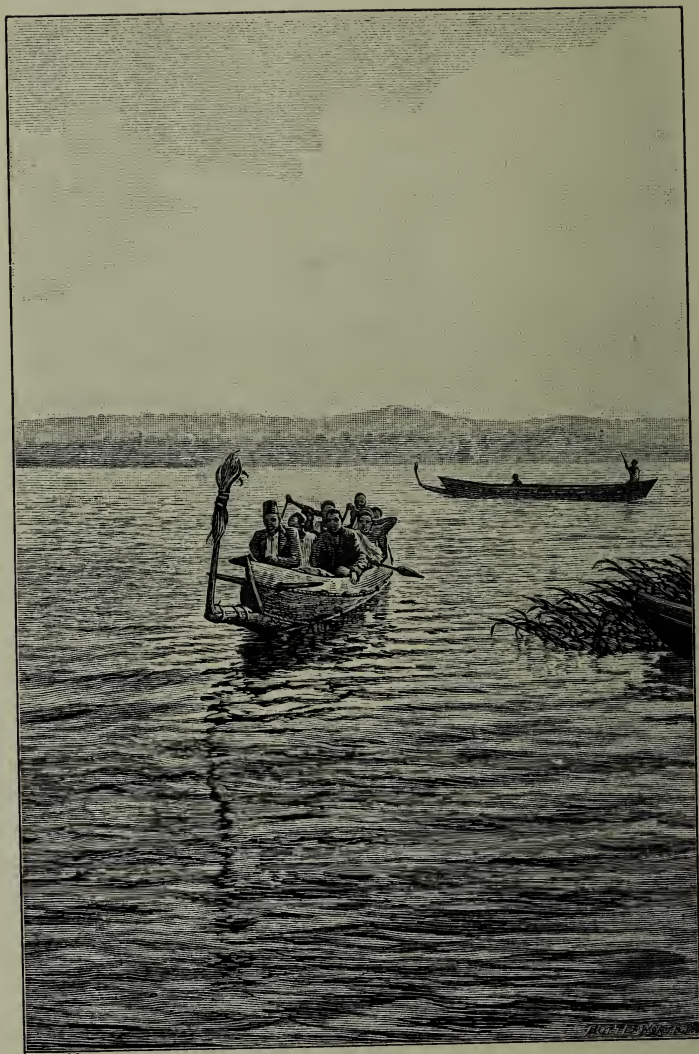


Fig. 12. A Sesse Boat on Lake Victoria.

the lake in 1875 he was often in peril from the Wavuma. He describes the voyage around the shores of Speke's Gulf and his visit to Ukererewe. Some of the natives laughed at the novel method employed by his men in rowing, and when the sail was hoisted they fled in terror.

The dwellers by the lake believed wonderful stories of the Wavuma daring in the water, crediting them with the ability of swimming under the water to hostile boats and cutting with knives the sutures which held the planking.

Great changes have come over the islands. In 1901 sleeping-sickness visited them and they have been depopulated.

THE HIPPOPOTAMUS

Many of the large rivers and lakes of the Uganda region are inhabited by the hippopotamus. This huge animal is the largest mammal which lives in fresh water ; it abounds in the marshes of Uganda and Lake Victoria. It is by no means difficult to shoot, and this form of sport is as devoid of danger as pigeon shooting. The natives endeavour to hunt the hippopotamus with the harpoon. Their method appears to be this :

The harpoon is a piece of barbed wire with a cord and float attached. The line traverses a hollow handle made of bamboo several feet long. When ready for use, the harpoon is drawn up to the end of the hollow handle by the line attached to it. The wily native conceals himself along the track used by the hippopotamus, and the animal when passing receives a forcible thrust which fixes the harpoon in its hide. The wounded beast rushes into the water, but the hollow handle is retained in the

hands of the hunter, and the line runs along it; the float attached to it indicates the position of the animal, which immediately seeks refuge in deep water. The second part of the hunt takes place in the water. The hunters go out in boats, and on finding the float, await the harpooned beast as it rises from the depths. When



Fig. 13. Harpoons used by Natives for catching the Hippopotamus.

the hippopotamus comes to the surface and opens its enormous mouth to seize a boat, and overturn it, the hunters inflict serious damage, especially on the animal's nose, with their spears. In this way, as the result of repeated attacks, the animal succumbs, and forms the material for a native orgy of meat.

It does not always follow when a hunter plants a harpoon in a hippo that he secures the beast. The line

may break, and the iron which enters the animal's body may fail to kill. I have had an opportunity of examining an iron harpoon, removed from a hippopotamus, which had been thrust into its body a long time before it was shot.

Hippopotamus teeth are peculiar; the incisors and canine, like the tusks of elephants and boars, grow persistently. The incisors in the upper-jaw are curved and directed downwards, but the spear-like incisors in the lower-jaw are procumbent. The canine teeth or tusks are curved and grow continuously; the growth is kept in check by attrition of the canines in the upper against those in the lower-jaws. Occasionally the antagonism of these teeth is so imperfect that the growth is not so checked. The tooth continuing to grow in a circle, its point will sometimes re-enter the jaw, penetrate its own pulp, and form a complete ring of ivory (Fig. 15).

The hippopotamus uses its canines and incisors like a spud for rooting up the grass and aquatic plants on which it feeds; also for fighting enemies and rival bulls.

When hunted, or wounded, a hippopotamus will attack and overturn a canoe or a boat; it will also perforate the boat with its teeth, and sometimes bite pieces out of it.

Hippopotamus ivory was formerly used for making artificial teeth. Sportsmen often keep the incisors and canines as trophies, and natives split large tusks and wear them as ornaments, or as charms.

On land the hippopotamus is an ugly and apparently awkward brute; its legs are very short in proportion to its body, which resembles a black hogshead on short supports. The feet are short and broad; the toes,

unequal in length, are furnished with rounded hoofs, all of which reach the ground in walking and leave easily recognized marks in soft, sticky mud, and do immense damage to the growing crops of the natives. This



Fig. 14. Old and Young.

The hippopotamus is a menace to the natives in their boats and canoes.

mammal eats grass in great quantities, which it is able to crop quite close. The stomach is complex, and capable of holding five or six bushels of grass and aquatic plants.

In spite of apparent clumsiness the hippopotamus

can make its way up a steep bank with remarkable quickness. In favourite haunts a hippopotamus track is often a tunnel through reeds, papyrus, and brushwood on the banks of a river, lake, or backwater. These animals feed principally at night, and sportsmen take advantage of this to shoot them, for when killed in deep-water they sink, but after two hours or more, when the gases of decomposition accumulate in the belly, the carcass floats, and can be towed into the shallows and rolled ashore.

The body of a hippopotamus is useful to natives. Its flesh is eaten, often uncooked. The skin is thick, and almost hairless. There are tufts of hair on the lips, around the margin of the ears, and at the tip of the tail. The hide is often two inches thick ; it is used for making whips, bridles, hobbles, etc. The Swahili name for the hippopotamus is Kiboko, and a dried strip of hide is used instead of a whip or cane when riding, and replaces the cane for corporal punishment. Its application to the bare back of a porter or culprit causes more pain than a whip, or a cane.

During the day these huge mammals remain concealed in the reeds or bushes, or in the water. In places where they are much disturbed they expose themselves very cautiously. As a rule, the body is submerged and the head exposed. When danger threatens, the head disappears below the surface, and the nostrils are voluntarily closed as the animal sinks under water. The hippopotamus is not an expert swimmer, but runs quickly along the bed of the river, and can remain under water from five to eight minutes ; it then cautiously raises its head to breathe, exposing only the nostrils, nasal surface of the face, orbits, and eyes.

Unless taken unawares, an hippopotamus in the water offers a small target for the sportsman. It is usual to aim at a spot an inch behind the eye and near the base of the small erect ear. A bullet in that position penetrates the brain case. When shot dead the animal turns over, the feet stick up, and the body sinks like a stone to refloat about two hours later. When badly wounded the



Fig. 15. The canine tooth of a hippopotamus which has grown into a complete circle.

hippopotamus flounders about, and churns up the water in a sort of death-struggle like the flurry of a mortally wounded whale. A wounded bull is a dangerous animal, and will attack a boat with great ferocity. There are many reliable reports in which natives and Europeans have been attacked by these animals. The natives kill the hippopotamus by means of game pits dug in their tracks, or with harpoons and spears.

In the lakes and rivers of Uganda the hippopotamus will defy extinction until this equatorial region is civilized and the sudd obstructions in the White Nile are abolished ; till then its ugliness and corpulence will continue to excite wonder in many future generations of men, black and white.

V

UGANDA

UGANDA, the most northerly as well as the most powerful negro kingdom on Lake Victoria, is governed by a Kabaka or King, assisted by a Prime Minister, a Chief Justice, and a Treasurer. Kampala is the headquarters of the administration. The official capital and headquarters is Entebbe, on the shores of the lake at Murchison Bay.

The natives of Uganda are known as Baganda, and differ in many ways from ordinary Africans. They are very black, but their appearance is mild and inoffensive. They are clothed with garments made of bark-cloth, but many native Christians, men and women, wear a long white calico garment, not unlike a nightgown, called a kansu, with sandals of stiff oxhide made to fit the feet.

Their houses are comfortably built of wood and dried grass: the interiors are divided into suitable apartments for the members of the families who use them. Beans, sugar-cane, sweet potatoes, coffee, and bananas are cultivated; the coffee is not drunk as a decoction, but the berries are eaten.

Though possessing cattle the Baganda live mainly on bananas, which grow luxuriantly in Uganda, and on fish from the lake which are caught in wire baskets. They make earthenware vessels, pipes, spoons, musical

instruments, such as guitars, and especially drums, spears, shields, and various charms to ward off evil spirits. Necklaces and bracelets are worn in a becoming manner and they do not disfigure their bodies by scars, nor work their hair into grotesque shapes.

It is noteworthy that a negro people so punctilious in outward decency especially in regard to clothes, and strictly covering the body from neck to ankle, should be considered among the most immoral of the African races. The word Baganda is almost synonymous with sensuality, debauchery, and drunkenness. In Uganda, according to reliable medical men and the testimony of bishops, syphilis is almost universal.

Infant mortality is very high among the natives—it being rare to find a woman with more than one child ; nor have they much love for children. The Baganda learn arithmetic with great facility. A missionary was very proud that one woman in her class had shown exceptional ability and could work out vulgar fractions ; this woman had a sick child, and as it showed no signs of improving, and as nursing interfered with her arithmetic, she left the little child out in the forest at night—for the hyænas !

Uganda is not troubled with lions, but leopards are often a nuisance. Shortly before our visit, some of the villages had been worried by a man-eating leopard, and a native party was organized to kill it. Nine of the party were badly mauled by the leopard and four subsequently died from their wounds.

Leopards are sometimes very bold, and have been known to seize and make off with patients in the sleeping-sickness camps. A Government official was having a *shauri* with a party of natives in Nandi : a hare chased

by a leopard appeared and dodged among the men. A timely and well-placed bullet cut short the pursuer's career.

As Uganda enjoys an abundant rainfall it is easy to understand that in the valleys between the hills may be luxuriant forests, marshes, or papyrus swamps with millions of gnats.

The banana (*Musa*), a gigantic plant, is common in tropical and sub-tropical countries. It grows wild in Uganda, but it is estimated that there are more than thirty varieties among the cultivated plants. A banana plantation is as typical of Uganda as a wheat-field is of England, or a potato-field of Ireland.

The banana is a curious plant: it forms a spurious stem by the sheathing bases of the leaves, which may rise fifteen or twenty feet. Some of the leaves are ten feet in length and two feet across the blade. They are often of a delicate green and move with every breath of wind: indeed a banana plantation is a feast of colour. The leaves are so easily torn by the wind that a perfect leaf is rare.

The banana is propagated by young shoots which arise from its roots. The old stem dies down after flowering and fruiting and the new one takes its place. The flower consists of a conical bulb of purple spathes. The poorly developed petals and reproductive parts are covered by a huge purple spathe which surmounts the stalk. When the fruit forms, the stalk becomes top-heavy and doubles on itself. The banana contains degenerated seeds and is a barren fruit; for it has lost the sexual mode of reproduction, and can only be propagated by suckers.

Dr. Cook found these spathes very useful. The

Baganda love physic, but it is difficult to persuade the patients at the Missionary Hospital to take the stuff in definite quantities at regular hours ; they prefer to drink it wholesale. Graduated medicine glasses could not be



Fig. 16. The Banana. A. The Flower cone.

A banana plantation is as typical of Uganda as a wheat-field is of England and a potato-field of Ireland.

supplied, but the deficiency is not felt because the spathe of a banana is shaped like a spoon, and its concavity holds for practical purposes one ounce of fluid, thus the difficulty was met.

When a native goes out in the rain he takes off his clothes, carries them under his arm and uses a banana leaf as an umbrella. Bark-cloth, as clothing, is soon ruined by rain. Women sometimes wrap a baby in a banana leaf. Good fibre is obtained from the plant both for ropemaking and for use as string.

Sweet potatoes are cultivated and the tubers are a favourite food of natives. Guinea fowls and antelopes are destructive to it. The plant once in the ground seems to be allowed to propagate itself without replanting.

Locusts are eaten after the wings have been removed and the bodies roasted. Termites (white ants) are regarded in Uganda as in other parts of Africa as delicacies. (See Chap. XX.)

The Baganda make their own pottery out of kaolin : red, white, or black clay. The blackness of the black clay vessels is intensified by a glaze made from graphite which occurs in Uganda. Some of the pottery is artistic, and good examples of vases glazed with plumbago may be seen in the British Museum. The people also weave baskets and mats, and are skilful in utilizing the various long grasses which grow in the marshes. The thatchers are a separate guild. They are very dexterous in covering the outer walls of porches and the woodwork of verandahs with long polished stalks of elephant grass packed upright, closely together and bound with string. But it is a remarkable fact that the Baganda, the foremost negro race in Africa, should have no knowledge of the plough, the saw, sails, or of wheeled vehicles ; neither have they done anything to tame or domesticate animals, although they are fond of dogs.

DRUMS

No account of Uganda would be complete without some reference to drums. In Uganda a musical band sometimes consists entirely of drums. They take the place of church bells in European cities, and, like bells, are used for ceremonial purposes, at weddings, funerals, and religious services ; and at times of national rejoicing, as well as to sound alarms. In the Sesse Archipelago they are used for signalling purposes between the islands : a special drum is beaten on Kome to announce the birth of twins, and a select drum is used on the appearance of the new moon. The Baganda are devoted to drums from babyhood.

The principle underlying the construction of the instrument is the same in all countries, and in all ages. A drum is composed of a cylinder which may be wood, bamboo, or metal, covered at each end with vellum, parchment, or prepared skin, the tension of which is regulated by strings. The sound is produced by percussion, usually by beating on the parchment or skin-covered ends with appropriate drum-sticks, or by means of the fingers or the palm. Much ingenuity is shown in making drums, and great skill in percussing them.

The shape and size vary greatly. The Uganda drum consists of a hollow truncated cone of wood with a piece of oxhide stretched over its ends. These two pieces of hide are connected by cords of banana fibre, which serves to keep them tense. The disposition of the cords produces a decorative effect enhanced by staining. Fig. 17. Some of the drums are of enormous size. I have seen one a yard and a half high and nearly a yard in width at the broad end. The conical-shaped drum

stands on its narrow end and is beaten on the broad end. Large war-drums are sacred.

When Speke visited King Rumanika at Karague, he found thirty-five drums ranged on the ground, with as many drummers behind them. The thirty-five drums all struck up together in very good harmony ; and when



Fig. 17. Women Drummers in Suna's Tomb.
(Hattersley.)

their deafening noise was over, a smaller band of hand-drums and reed-instruments was ordered in to amuse him.

In Uganda the State organization is of high order ; every principal chief has his own standard and drum-call. When the King's war-drum sounds the call to arms

in Mengo, each district passes the signal on. Thus the country is quickly aroused. Special beats are used for alarms, as when a wild animal, such as a lion, is discovered in a village.

The Baganda believe that the spirits of the dead are malicious ; so drums are beaten to keep them quiet. Human shin-bones were used for drum-sticks in some of the ceremonies connected with Mukasa's Temple in Bubemba.

In Kampala, I was much impressed by the way sound travels from one hill-top to another. A native on the summit of one hill can converse without much difficulty with a native on a neighbouring hill, and in the calm of the evening the sound of the drum travels long distances. This makes it easy to believe that drums are used in these countries not only for issuing signals but for conveying messages in code.

Simple forms of drums are made by hollowing out a piece of the stem of a tree, a yard long and eight or nine inches in diameter. Over the ends of these long cylinders a piece of skin from a large lizard is stretched ; sometimes a piece of goat or antelope skin is used, but whatever the material, it is fastened over the ends of the drum and fixed to the wooden cylinder with pegs, or in some of the more elaborate drums, the skin is stretched by means of strips of leather.

Long narrow drums of this kind are carried by a leather strap passing over the drummer's shoulders.

The *ngoma*, as the drum is called, is an indispensable accompaniment to all native dances ; hence the word has come to signify dance. A band sometimes consists entirely of drums ; when a drum is not in tune the drummer collects grass and makes a small fire over

which he warms the hide until it becomes tense enough to furnish the proper note. When drums are played by hand variations are produced by striking the stretched



Fig. 18. In Uganda drums are used instead of bells to call the congregation to worship.

skin with the palm, the finger-tips, the knuckles, or closed fist. The concerts usually last for many hours.

The term drum is usually restricted to sound-producing instruments in which a tense membrane,

stretched across a hollow cylinder, is set in vibration by hand or stick. The peculiar booming of a drum can be produced without the aid of a stretched membrane. The Gordon College, Khartoum, possesses a specimen of the remarkable drum used by Niam-Niam. It is roughly shaped like an ox, with head and horns attached by a narrow neck to a thick body two feet in diameter, with a tail and supported on four short, thick legs. The whole is cut out of one log. The part representing the body of

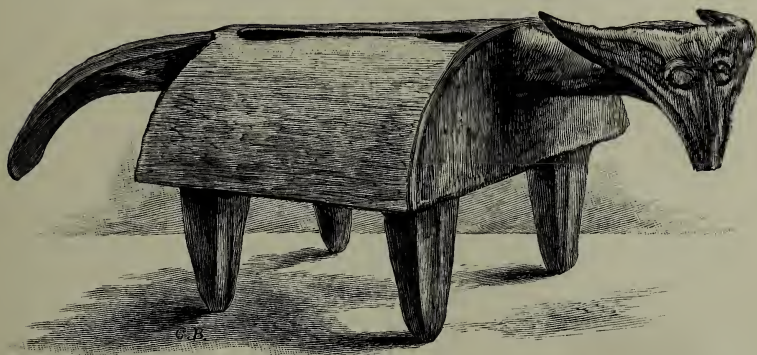


Fig. 19. War-drum of the Niam-Niam. Captured 1905.
(Gordon College, Khartoum.)

the ox is as big as an ox and narrow towards the spine. The whole is hollowed out like a trough, with a narrow, slit-like mouth replacing the backbone. The sides of this drum are of unequal thickness and enable the drummer to produce two distinct sounds according to the side struck. The wood is extremely hard and resonant. Schweinfurth states that three important signals are rendered on these drums—one for war, another for hunting, and the third a summons to a festival. The war signal sounded on the drum by a chief and repeated by other drums brings thousands of armed men when necessary.

VI

KAMPALA (MENGO), THE NATIVE CAPITAL OF UGANDA

KAMPALA is a picturesque town about twenty-three miles from Entebbe and seven miles from Port Kampala on Lake Victoria. It occupies the summits of seven hills and has been called in consequence by missionaries—Zion. The residences of the Kabaka (King), his court, and followers are here.

We approached the town from Entebbe in a transport motor-car along an excellent road. In the cultivated patches by the side of the road sweet potatoes were growing: elsewhere, the road was bordered by banana plantations and the huge green leaves of the bananas waving like fans in the breeze; and groves filled with palms and bordered with tall tufts of elephant-grass made us fancy that we were passing through the Palm House at Kew. Suddenly the road traversed a stretch of equatorial forest filled with large trees, in all stages of growth and decay, supporting parasitic trailing plants and lianas.

These thick groves and corners of forest contain a great variety of birds. Not the least remarkable were the huge black and white hornbills who seemed to think it a hardship that they should be expected to fly. The bee-eaters, sun-birds, parrots, and rollers filled the scene with life, glory, and beauty. In some of the forest patches monkeys were seen in troops, playing among the

trees or sunning themselves in the tops of dead trees, or sliding down the lianas like children in a gymnasium.

As we emerged from the forest, palms, bananas, sweet potatoes, and rubber trees again came into view with mud-built, grass-thatched native huts. Black-skinned children gnawing at bananas, or a piece of sugar-cane, watched the passage of the car. We rode up and down the hills of this switch-back road until we caught a glimpse of the Uganda Cathedral on the top of Namirembe Hill, and in a short time we entered Kampala. It was a beautiful approach to a remarkable town.

It is now possible to travel by train from Mombasa to Kisumu, cross the Ripon Falls by rail to Kampala (Mengo) and reach Entebbe. This railway has cut out Lake Victoria as a regular route to Entebbe. Jinja is situated at the head of Napoleon Gulf, just above the Falls where the lake discharges itself into the Upper Nile.

The districts around the bases of the Kampala Hills are occupied with plantations, and the residences of the white officials are surrounded with ample gardens, or compounds filled with tropical trees, flowers, and fruits. In walking among these I saw a female bushbuck eating cabbages in the garden ; in another two crowned cranes were performing the dance for which they are so celebrated. I also started a heron, and on the verandah was a serval cat chained up by the collar like a dog, quite tame, eager and willing to receive caresses. Our hostess, Mrs. Baker, had a young genet as a pet, and a chameleon. Genet kittens are very pretty and favourites with men and women. While we amused ourselves catching flies for the chameleon an interesting question arose concerning its mode of reproduction. I maintained that the

chameleon laid eggs, and was immediately faced with the following statement: A lady friend gave Mrs. Baker a chameleon, which was at once placed on the wire-work blind in the lower half of the window; an hour later, three young, clay-coloured chameleons were clinging to the wire blind and there were no signs of eggs and shells. There is no real difficulty, for the species, *C. pumilus*, is viviparous, and this proved to be the species under discussion. It is noteworthy that the young chameleons were active very quickly after birth, and one of them caught a fly within its first three hours of life.

We often amused ourselves finding chameleons and attempting to photograph the tongue when ejected at a fly. The protrusion of this long elastic organ is a deliberate and, on the whole, a slow action. Watching the process it is easy to see when a chameleon intends to secure a fly:—While it is carefully focusing the insect, its cheeks swell out and the end of the tongue protrudes slightly from the mouth and is quickly ejected at the fly; if the insect be secured, the tongue is quickly and easily drawn back into the mouth. Flies are often thus caught when at six inches distance from the chameleon's mouth; it seems to get the range of the insect with much more certainty at six inches than at four. Anyone who has carefully watched chameleons will agree with Gadow that the tongue works best when shot out at full force. When a chameleon ejects its tongue at a fly and misses it, the reptile appears to have more difficulty in withdrawing the organ into the mouth than when the fly is hit. When the object is missed the tongue hangs about like the loose end of a thread. The chameleon even in its own natural surroundings occasionally misses a fly.

The variation in the colour of the chameleon's skin was very curious. Although a chameleon seems to move very slowly when carefully watched, yet left to itself even for a few minutes, the reptile generally escaped, and its power of adapting the colour of its skin to the environment soon taught us the hopelessness of even a rigorous search.

It is difficult to detect chameleons among the branches of trees. The skin of the chameleon is covered with granules. These reptiles can grasp very tightly by means of their awkward-looking feet "with triple claw disjoined." Their tails, too, help them to maintain a secure position.

The eyes of chameleons are curious. Each acts independently of the other; one can be directed forwards while its fellow is looking backwards. The prominent eye is covered with a circular lid pierced by a small hole.

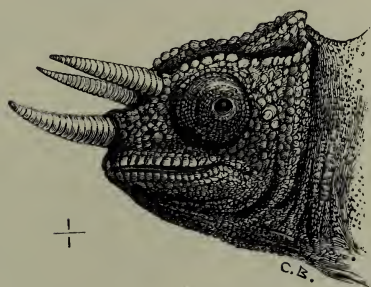


Fig. 20. Head of a Three-horned Chameleon.

A three-horned chameleon living in the Reptile House, Zoological Gardens, London, 1932, gave birth to nineteen young ones. Many survived delivery and in a few hours were climbing slender branches and catching insects. Each chameleon had three minute pointed horns. Though they look ferocious they are harmless, and may be handled with the same freedom as the hornless species.¹

Dr. Baker was a zealous medical officer in Mengo; when the medical world was startled by the discovery

¹ Burgess Barnett. *Pro. Zoo. Soc.*, Part 111, 1932.

that malaria was caused by a parasite introduced into human beings by mosquitoes, medical officers in



Fig. 21.

Stranger animal,
Sure never lived beneath the sun ;
A lizard's body lean and long,
A fish's head, a serpent's tongue.
Its foot with triple claw disjoined ;
And what a length of tail behind.

JAMES MERRICK, 1720-69.

malarious countries became active in supervising the obliteration of puddles, stagnant pools, water-butts and

the like with obvious benefit to the natives. In Mengo these measures were at first partially successful ; Baker was puzzled by the frequency with which he found the parasite in the blood of native children. At last he was surprised to find that pineapples were breeding-places for mosquitoes ! Their scoop-like leaves hold from one to two ounces of water. Baker found the water in these natural scoops swarming with parasites ! The pineapple areas were naturally much frequented by children.

THE TOMB OF MUTESA

This conspicuous building surmounts one of the hills of Kampala. It is cone-shaped, built of timber and reeds, and thickly thatched. It has one door and no windows, so that the interior is weird and mysterious. Two rows of poles make a sort of aisle which is strewn with grass, and a fence of spears protects the grave, which is covered with bark-cloth.

There is a Uganda shield at each end of the row of spears. A large sheet of bark-cloth consisting of white and dark squares arranged in chequer or draught-board pattern forms the background of this sombre chamber of dead.

THE UGANDA CATHEDRAL

The cathedral on the summit of Namirembe Hill, was struck by lightning and reduced to ashes a few months after our visit. Probably no other place of Christian worship in the world was like unto it. This cathedral rested on a foundation of burnt bricks, but those used in the construction of the walls were sun-dried. The wooden roof was supported by two rows of octagonal columns built of unburnt bricks, and thatched with

dried grass. The beams which supported the roof were overlaid with polished stalks of elephant grass which caused the interior of the cathedral to be filled with a pale-yellow light, producing an unusual and pleasant impression. The walls were pierced with long narrow windows and fitted with wire netting to exclude bats. The netting was necessary because the bats hung from the roof, and a dead one occasionally fell among the worshippers squatting on the floor.

The interior of the cathedral consisted of a nave and two aisles, a transept, and a vestibule. There were two entrances one at each end of the transept. The cathedral accommodated four thousand persons. It had neither belfry nor bell-tower but a drummery—a detached building constructed mainly of grass—containing three drums: a major, minor, and minus; these were beaten to summon the Baganda to the services. (Fig. 18.)

A plot of ground immediately under the shadow of the apse of the cathedral is reserved as a burying-ground. It contains the remains of Bishop Hannington murdered by the natives in 1885 by the orders of Mwanga. Captain Raymond Portal is buried here; and the officers Thruston, Wilson, and Scott who were murdered by the Soudanese Mutineers, 1887.

In the market-place near by a native boy was busy extracting “jiggers” from the sole of an old man with a safety-pin, and his reward was a few dried fishes resembling sprats.

Here we were able to study the making of bark-cloth for which Uganda is famous. This is obtained from a species of fig-tree which flourishes in this fertile country. The bast on the inner side of the bark is removed in strips six or ten feet in length. Red bast is preferred.

The strip, which varies in width according to the circumference of the tree, is soaked in water until it is a soft mass ; it is beaten with a wooden mallet to a uniform thickness and dried. The strips are sewn together with extreme neatness to any desired size. The bark-cloth is often variegated by bold stencilled designs, sometimes in grotesque patterns, by means of a black dye.

It is the correct thing in Uganda for princesses and the wives of the chiefs to wear bark-cloth in preference to calico. Bark-cloth makes a useful material for binding writing-books and blotters.

FETISH HUTS

The Baganda firmly believe in evil spirits and zealously observe rites for the purpose of appeasing them. They believe the spirits of the dead possess great power for evil or for good, and the practical method of propitiating them consists in offerings placed in little grass-huts or spirit-shelters built outside the village, in gardens, or in forest. Fig. 22. The native name for them is *lubale* (a temple). In the evening offerings are placed inside them, and when the spirits were supposed to be particularly troublesome they consisted of cooked bananas or pretty flowers.

The natives suppose that the spirits haunt the trees, plantations and gardens ; the murmuring of the wind among the leaves was regarded as the converse of spirits ; and the movements of the leaves were attributed to their frolics, especially when the wind stirred the dead leaves. I had the same idea when a child and the gyrating vortices, or tourbillions, of dead leaves and dust in autumn often filled my mind with dread.

The Baganda believe the favourite haunts of spirits

to be graves in which their bodies were buried. When a man dies his hut was pulled down, and no one would think of constructing a new one on the same spot without building a *lubale* to appease the spirit of the dead man.

Since the spread of Christianity in Uganda fetish huts have become rare. Bishop Tucker called them peaked



Fig. 22. Fetish huts in the neighbourhood of a grave.

devil-houses; formerly they were almost as numerous as the huts of the natives.

At the time of our visit in 1909 the health conditions of the Baganda were appalling. There were statistics which indicated that 80 per cent of the natives had contracted syphilis at some time in their lives and gonorrhœa was equally rampant, among males young and old.

There are encouraging signs that the present generation is warned of the dangers of promiscuous intercourse. The Sanitary Departments of the Government have in some measure controlled such epidemics as smallpox,

plague, and sleeping-sickness. In 1909 we visited the native hospital in which Dr. J. H. Cook and A. R. Cook, now Sir Albert Cook, carried out their admirable medical work among natives. The institution was fitted with most of the requirements of modern surgery. The organization was excellent and testified to the zeal and energy of the staff. To-day (1933) Mengo has not only an excellent hospital but also a Maternity Training College for Baganda midwives and nurses. The success of these courageous enterprises is remarkable. To-day the Church Missionary Society has in addition a Medical School for training native doctors.

In Uganda there are neither lunatic asylums nor prisons, but lunatics exist and crime abounds. Criminals and dangerous lunatics are put in the stocks. This measure of restraint is also useful for wives who displease their husbands, and especially those accused of immorality.

Stocks are heavy pieces of wood with holes large enough to allow the foot to pass through. To confine a person in the stocks one foot was passed through the hole, then a stout peg, driven through the opening at right angles, so narrows it as to prevent the foot being withdrawn. Men in the stocks are kept under observation so that they cannot withdraw the peg. The constant rubbing of the leg against the hard edges of the wood produces uncomfortable and deep ulcers. As a rule only one foot is fixed in the stocks. To enable the man to move about a rope of plantain fibre is fixed to the log.

VII

THE MASAI—THE SHEPHERD-WARRIORS OF MASAILAND

THE Masai inhabit the inland districts of Kenya. In spite of much research nothing is known of the origin of this tribe of men. They not only differ widely in language, customs, and organization from the surrounding tribes, but are divided into two sections. Of these one is pastoral and nomadic, and the other agricultural. Both sections avoid the sea-coast and though lakes, like Naivasha and Nakuru, are found in the districts in which they live, they never use a boat or catch fish.

The males of the tribe are divided into boys, warriors, and elders. The stage of boyhood continues till the age of thirteen or seventeen; then the boys, with much ceremony and mystery, are submitted in batches to circumcision. This operation among the Masai is a complicated procedure and occurs once in five years. Previous to circumcision a boy helps to herd the cattle but after this event he becomes a warrior. He then plaits his hair, adorns himself with certain ear-ornaments, and goes naked with the exception of a small skin worn over the shoulders for warmth, not for decency. His outfit as a warrior consists of a spear, shield, bow and arrows, a club and a sword. The shields are made of hide, but not all of one pattern, each age and sub-district having its own design. This is also true of the spears and arrows. The Masai rely for their weapons



Fig. 23. A Masai Warrior,

and metal ornaments on smiths, usually Dorobo. Each clan has its own smiths.

A warrior's decorations are very elaborate. He wears ear-rings, ear-studs, and an arm-clamp. When on the warpath he has a cap of ostrich feathers, or a head-dress made from the mane of a lion. On his leg is an anklet formed either of goat's skin or from that part of the skin of the Colobus monkey which has long white hair. The boys shoot birds with bows and arrows in order to obtain feathers and plumes for the decorations of the warriors.

The manly dress that marks the warrior's pride
Two foes he slew before the raid was done,
And in their blood his maiden spear was dyed.

W. J. MONSON.

Masai arm-clamps are of two kinds: The one worn by warriors is only put on as an ornament, and is taken off when starting on a raid. The arm-ring, which is cut out of a buffalo horn or an elephant's tusk, is worn by elders who possess large herds of cattle and many children, and denotes the wearer's wealth.

When a warrior reaches the age of thirty years he marries and settles, and if a man of importance he may be elected chief. His life is a tame affair now that this tribe is under British control, for raiding, cattle stealing, plundering, and murdering are not permitted.

The warriors in the zenith of Masai power would sometimes take a thousand head of cattle in one raid. After a successful capture of cattle they returned to their kraals and divided the spoils. Feasting and fighting among themselves were usual sequels to successful raids. Joseph Thomson in his African romance, *Ulu*, has described a blood-and-meat orgy which followed a cattle raid.

The most remarkable adornments of the men and women are the curious ornaments worn in their ears, especially that known as the 'surutya (see Chapter IX, On Ears).

All tribes which disregard clothes, as a rule, pay great attention to their hair. This is true of the Masai. After the boys have been circumcised the hair is allowed to grow, and as soon as it is long enough, worked into plaits. In wet weather it is protected by a cap made from the paunch of a goat.

The women dress in leather garments ; shave their heads and eyebrows ; wear ear-rings and encase their legs and arms in coils of iron, brass, or copper wire. The coils are sometimes wound so tightly round the limbs that the wearer moves with great difficulty. The wire-coils around the neck resemble the well-known firework arrangement called a Catherine-wheel. All metal ornaments are kept brightly polished.

The young unmarried girls have an agreeable time ; when a boy becomes a warrior he no longer lives among the married members of his tribe, but in separate kraals with the girls. The newly initiated warrior usually selects the girl with whom he wishes to live. Thus whilst the warriors and girls are philandering and what is often termed enjoying life by spending their time in dancing, singing, and adorning themselves, the mothers of the men are engaged in what may be called house-keeping and cooking.

The women also milk the cows and goats, in which they are assisted by the boys. Now that the Masai no longer raid their neighbours the occupation of the warriors is gone, but they make excellent herdsmen and are often employed in this capacity by European



Fig. 24. A Masai Woman.

settlers. The Masai are not only polygamous but also polyandrous, for the wife is lent to a visitor : they are exceedingly immoral. Thomson states that though the Masai and Kikuyu were eternally at war with each other, there is a compact between them not to molest the womenfolk of either party, and Masai women would wend their way to a Kikuyu village whilst their relatives were probably engaged in a deadly struggle close at hand.

The Masai are fond of moving, and if grazing is poor they move to another place. Donkeys and women are the pack-animals. It is quite common to meet a party on the move and find the women laden with babies, bags, gourds, and other utensils ; the work of raising the skin-tents, or building huts, devolves on them also. The men accompanying the party merely carry their spears and clubs.

With us to spit upon a thing expresses contempt ; with the Masai it is a sign of friendship and respect. The two lower incisor teeth are knocked out in men and women, and no reason is assigned for this practice. In spitting, the fluid is ejected through this gap, sometimes in a forcible stream. I first saw the practice in a village. When my conductor entered the village a woman of the tribe advanced and shook hands with him, having previously spat in her palm. My friend spat on his palm, and I noticed that he did not shake hands with what would be called warmth. I mentioned this opinion to him subsequently ; he replied that she had expressed her high appreciation of his visit by spitting too freely into her hand ! Among these people spitting is a custom with an infinite variety of meanings.

The Masai take very little trouble with their dead.

The corpse is carried a short distance from the village and left to be devoured by hyænas, jackals, and vultures. They believe that when a man dies it is the end of all things as with their cattle. To bury a corpse would, in their idea, poison the soil.

The principal food of the old men, women, and children is milk. The warriors drive bullocks into the forest and slaughter them for meat. All members of a village would eat an ox if it died a natural death, or if killed by a snake or a beast of prey. They are very fond of blood, which is obtained from an ox by shooting a blocked-arrow into the jugular vein. The blood they catch in gourds and drink hot.

Some fifty years ago the drinking of warm bullock's blood was advocated as a cure for consumption, and patients afflicted with this disease would regularly attend slaughter-houses in London to drink the prescribed quantity of this supposed specific.

As the Masai live on milk, meat, and blood, and hunt no game, they are dependent on their flocks and herds. Zebras, gazelles, and kongoni run unmolested with the cattle. Their domestic animals are cattle, sheep, goats, donkeys, and dogs. The cattle are humped (zebus), and humpless oxen they treat with disdain. The settlers have crossed some of the native cattle with humpless species and in two generations the hump disappears.

Anatomically the hump of the zebu consists of fat interspersed with muscle fibre; the latter is derived from the broad thin stratum of muscle known as the *panniculus carnosus*, immediately beneath the skin. This is the muscle which enables oxen and horses to twitch their skin, especially when irritated by flies.

The hump is excellent to eat, especially when salted. The cattle can take care of themselves. It is stated that a herd will charge a leopard or hyæna, and leave it a shapeless mass. It is strange that these cattle allow children to manage them so easily. Kipling, in the



Fig. 25. A Masai Bull.

The cattle are humped like the Zebu. Oxen without humps the Masai treat with disdain.

delightful *Jungle Book*, refers to this matter in India ; the very cattle, he writes, that would trample a white man to death will allow themselves to be banged and bullied and shouted at by children who hardly come up to their noses.

The Masai love their cattle, and each cow is known by

name. As cattle feed on grass the Masai love it on this account. In times of drought the women fasten grass to their clothes and pray. In a fight grass is used as a sign of peace.

The Masai not only act as veterinarians, but they practise surgery. In treating comminuted fractures they cut down upon the fragments, remove the splinters, bring the broken edges into contact, and suture the wound with sinews from the back of the ox. When it is realised that a man's bone cannot be mended, the surgeons fasten a ligature round the limb and amputate it. (Hollis.)

These shepherd-warriors are dignified men ; they are born orators and conduct lengthy arguments. They are also wags in their way, and exhibit their wit at the expense of the Swahili, whom they despise. The Masai rarely smoke and do not take intoxicating drink : they reckon time by the sun, and fix dates by the moon and rain. There are two rainy seasons annually. Their kraals consist of low, oblong, round-topped huts, placed end to end, surrounding a circular enclosure with a diameter of thirty or forty feet which is used as a stockyard. The framework of the huts is wood and wickerwork filled in with a mixture of cow-dung and mud. The doorway of the hut is a hole which looks toward the stockyard. In building the huts the rafters are completely hidden with the cow-dung and mud mixture except one which protrudes beyond the door : "It is said to be watching the cattle " (Hollis). Outside the continuous line of huts, a strong thorn fence (*boma*) affords protection against man and wild beasts.

During the dry season such a place can be lived in,

but in wet weather it is detestable. To protect the roofs of the huts hides are spread over them and tied down or kept in place by stones. These hides not only stink, but are visited by myriads of crawling and flying insects. The central space of the village is thus one reeking dung-hill haunted by clouds of flies.

Bearing in mind the moral and physical conditions under which these people live, there is ample justification for Routledge's strong opinion, that a Masai kraal near civilization, i.e. near a railway station, town, or Government post, is a sink of iniquity. The cattle are the mainstay of the tribe !

The white settler finds fault with the Masai on the ground that their great object is to accumulate wealth in the form of herds and flocks. They will not sell any cattle useful for stock purposes : barren and dried-up cows they part with to be slaughtered for food. They do not encourage the milk-yielding properties of their cattle.

The Masai, however, now play a different part in East Africa from that which they performed thirty years ago : from 1850 to 1885 they were numerous and their military organization made them formidable. For many years they levied toll on the Arab slave dealers, the Swahili traders, and all caravans, whether organized by Arabs or Europeans, which passed through Masailand. Joseph Thomson suffered from their arrogance and exactions in 1883 and wrote an excellent account of these bloodthirsty, overbearing warriors.

Since then they have fallen from their high estate. Rinderpest attacked and destroyed their cattle wholesale. Many of them died from smallpox and the tribes who were raided by them in the days of their power have

not been slow in making reprisals for the murdering and plundering of the past.

They are now settling down contentedly under British rule and in 1924 the Reserve was gazetted a "Closed District."

VIII

THE KIKUYU—THE PEOPLE OF THE KIKUYU COUNTRY

THE area commonly known as the Kikuyu country, though traversed by the Uganda Railway, is imperfectly delineated. Southward it abuts on the Athi Plains ; northward it is near the Equator ; eastward it extends towards Mount Kenya, and westward to the Aberdare Mountains and the edge of the Rift Valley. Those parts which are best known to Europeans, sometimes termed the Kikuyu Highlands, are 6000 feet above the level of the sea, and were formerly covered with thick forest, but the Kikuyu have gradually cleared it with the help of fire. Now, with the exceptions of patches of virgin forest, the best parts consist of undulating land dotted with villages and cultivation. The extremes of temperature at this altitude are trying. In the dry season the thermometer varies from below freezing point at midnight to above 91° Fahr. at noon. The weather is unpleasant in the wet season and hailstorms of great violence are fairly common.

The Kikuyu are agriculturists and grow maize, millet, sugar-cane, sweet potatoes, bananas, tobacco, castor-oil trees, beans, and the arum lily. Work in the fields is done by the women. They also have flocks and herds, chiefly goats and sheep, and the care of the animals develops on the men and boys. The possession of such resources excited the cupidity of neighbouring tribes,

especially the Masai, and the two tribes were always at war. The Kikuyu is the only people which offered any real resistance to the swaggering, fighting, raiding Masai. In order to raid Kikuyu cattle the Masai warriors had to travel through the forest along winding tracks beset with pits with the enemy lining the side bush with bows and arrows, swords, and spears. On the plains the Kikuyu warriors were no match for them, but in the depths of the forest the El Muran raiding parties had a bad time.

The warriors of Kikuyu imitated their warlike neighbours in many ways, such as hair-dressing, decorating themselves with feathers, the hair of goats, the long tails of the guereza monkeys, and the tusks of the wart-hog. Men mutilate their ears in the Masai style, practise circumcision, file their teeth, and have the habit of standing on one leg. They attach the same value to spitting as a charm and a sign of friendship, and imitate the Masai in their weapons: spears, swords, bows and arrows, knobkerries, and shields. The warriors also ape the El Muran in the drinking of blood, in the manner practised by their warrior neighbours.

They make an alcoholic drink from the juice of the sugar-cane, which is obtained by pounding the cane in a trough with a wooden pestle. This is the work of women. A fermented juice is also made from honey. The Kikuyu are fond of honey, and a honey-barrel fixed in the branches of a tree in the Kikuyu country is a feature in the landscape (see p. 24).

The huts are simple one-chambered dwellings. Their walls consist of a ring of posts stuck into the ground to support the roof. The interspaces between the posts are filled with wattling and the walls thus formed are bedaubed with clay. The roof-poles extend beyond the wall;

when the hut is thatched with dried reeds, or grass, the overhanging portion of the roof, which is supported by additional series of poles, forms a verandah. They have no windows and the entrance lacks a door, but at night a wickerwork arrangement something like a hurdle, made from a tough creeper, is placed against it and wedged into position by a piece of timber. These huts, though built of such frail material, will, if looked after, last for many years, but a deserted hut soon falls to pieces. A great destroying agent is the termite (see Chap. XX) ; and also, as can be imagined, these huts are very inflammable.

The Masai formerly stopped caravans which the Arabs, ivory dealers, and slave raiders conducted through their lands and demanded toll. The Kikuyu, on the other hand, pilfered where they could, but preferred to barter with the Arabs and supply them with grain and food. The bartering, as all readers of Thomson's journey through Masailand know, is done by the women.

The Kikuyu have regular market days, where ornaments and weapons are bartered. Iron ore and charcoal are offered for exchange, firewood and grain may be obtained ; men can buy beer, and gossip is universal. Salt, string, bananas, bird's skins, earthenware pots, fat, knives, gourds, sugar-cane, honey-barrels, feathers, tobacco, hides, and skins are on sale for those who need them.

Formerly barter was the chief means of exchange, beads were accepted as payment, but Government has introduced the cent and this simplified matters.

The women of Kikuyu are interesting folk : whilst the boys and men are looking after goats and sheep (in former times fighting), or sleeping in the sun, the women

are cultivating the land, keeping the plots clear of weeds. They bring in big loads of firewood from the forest. It is also their duty to fetch water either in huge earthenware jars or gourds. Younger women pound the grain as well as cook it. During the day, when there is nothing



Fig. 26. A Man of Kikuyu with a gallipot in the lobe of the ear.

more important to do, they sew skins and fashion clothes.

Sewing is done by means of an awl and pointed thread, the latter, a fibre obtained from the bark of trees. The string is sometimes made from the tendons of animals. The Kikuyu require string for setting snares, tying cane

and reed into bundles, repairing calabashes, stringing beads, weaving bags, etc.

Boys run about naked, but even the smallest girls wear leather aprons. Older girls and women wear a



Fig. 27. While the men and boys are looking after the goats or sleeping in the sun, the women are cultivating the shambas, keeping the ground clear of weeds, or fetching big loads of fire-wood from the forests.

quaintly shaped leather petticoat fastened round the waist; with two curious pointed lappels hanging in front. The upper part of the body is protected by a leather cloak, which is worn for warmth, but with no idea of concealing the figure.

When the girl is old enough for marriage she wears a band of beads across her forehead, which is also

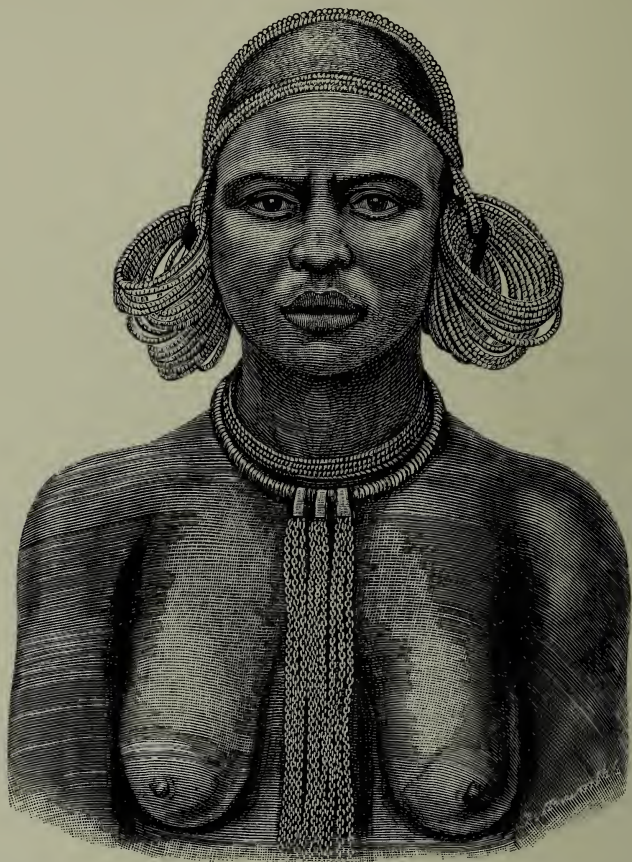


Fig. 28. The Kikuyu women strive to get many rings through the artificial openings in their ears. On one occasion I counted forty-four rings in the pinna; the majority were in the lobe-loop, but a dozen occupied a slit in the concha.

ornamented with shells. The women also wear earrings, armlets, and anklets. ♀

The iron they require is obtained from ore found in the country and smelted by their own smiths who are

able to make all iron articles required in the way of iron wire, chains, rings, ornaments, spears, swords, hoes, hammers, collars, etc. They are specially deft at making iron wire which is used for the purpose of ornaments. At times copper wire is obtainable for chain-making.

The Kikuyu also make useful pottery. The women are the potters and they mould the soft material by hand. Their methods of hair-dressing are described in Chap. XII.

Goats play such an important part in the domestic economy of the Masai and the Kikuyu that they demand consideration. It is an easy thing to distinguish a horse from an ass when they are seen in real life, but if one is asked to describe or even enumerate the distinguishing points of these two familiar animals the matter is not quite simple. The points which distinguish goats from sheep are less marked and fewer. The Kikuyu make no distinction between sheep and goats. Even zoologists find it difficult to draw a satisfactory line of distinction between them. A typical he-goat has a beard, long, angulated, transversely wrinkled horns, and a strong odour. Sheep and goats are prized for their milk, flesh, and skins. A man's wealth is estimated by his flocks and herds. As goats are used to purchase wives (the unit of value being a goat), these animals are therefore carefully watched by day and at night they are guarded in strong enclosures. The sheep and goats are ear-marked, and as is the custom with shepherds in Europe, the flocks are counted night and morning. In every village there is a long wooden trough containing salt for the animals to lick.

According to the Routledges there are some neat-

handed surgeons among the natives of Kikuyu. Sword-slashes and stab-wounds are sewn up. The method is simple ; one or more strong thorns are placed deeply

through the tissues at the edges of the wound, a hole being made by an awl to enable the thorn to be inserted. A string of vegetable fibre is then wound round the thorns in the form of a "figure of eight," which ensures a good apposition. Intermediate sutures are used if required. This form of suture was largely used by the best surgeons in the civilized world thirty years ago.

Every man carries a formidable knobkerry or club, which at times he uses very freely and many depressed fractures are produced by these weapons.

An account of the Masai and Kikuyu would be incomplete without an account of their living sepulchres—the hyænas. These animals belong to the same group of carnivora as the cats and civets, but differ from these by their ungainly shape and ugliness.

The hyæna, when full-grown, is nearly six feet from nose to the tip of the tail. It has four toes on each foot, and as the claws are non-retractile the footprints are

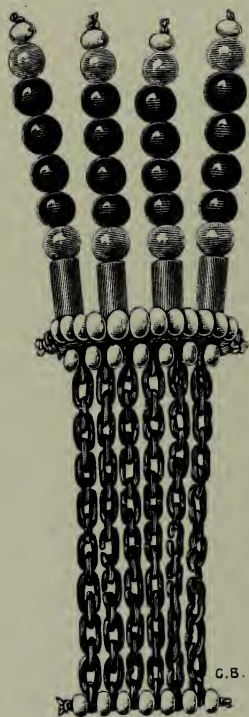


Fig. 29. An ear-ornament which the Kikuyu around Mount Kenya wear in the helix. (British Museum.) The beads of the top row are white ; the second row, grey. The third, fourth, fifth, and sixth rows consist of bright blue beads ; those of the seventh row are grey, and the basal row is formed of pieces of reeds or straw. The chain is of iron and of native make. The beads attached to the chain are white.

easily recognized by the marks of the nails, and by being larger than those of a hunting-dog. The front legs are longer than the hind. It is difficult to tell the sex of a hyæna on superficial examination. The voice of the hyæna is extraordinary, on account of the variety of



Fig. 30. The spotted hyæna, the living sepulchre of the dead Masai and Kikuyu.

its sound ; the snarling, hideous, laughing noise it utters round a carcass is only made when they are annoyed or excited. Natives believe that animals and birds talk to one another like human beings ! The noise the hyæna makes when he finds a corpse is supposed to be “ I have found it.” Hollis in his account of the Nandi gives numerous examples.

The senses of sight and smell are very acute in hyænas. They are gregarious and troops of eight or more are common. Although they rarely seize wild game they kill donkeys, goats, and even cattle, and will attack wounded game. They devour every portion of a wounded carcass, skin, flesh, bones, their powerful jaws enabling them to crack every bone.

They are great cowards, but hunger makes most animals venturesome, and a famishing hyæna will carry off babies from the huts and sometimes adults are seriously bitten. It is its habit to bite pieces off the exposed parts of the body such as the cheek or buttock.

Hollis has translated from the Nandi the following folk-tale which explains how leopards got spots on their coats, and hyænas blotches: Two lion-whelps seeing some warriors adorned for war thought they would look well if painted. They got some paint, and one whelp dabbed a number of black spots on the coat of his friend. The spotted whelp began to paint his companion when they heard the cry, "A goat has been lost." The painter then threw the paint-pot at his friend and rushed away to find the lost goat. The spotted whelp became the leopard, the partially painted one, a hyæna.

IX

ORNAMENTS FOR EARS AND LIPS

HUMAN vanity assumes many forms, and one of its grotesque expressions is furnished by a study of the ear-ornaments of the Masai and Kikuyu.

The various contrivances employed for adorning the ears among mankind may be set down in two classes, ear-studs and ear-rings. As a rule, ear-studs are inserted into the helix and ear-rings into the lobe. In some instances, the lobe is converted into a loop for the retention of the ornament. In many civilized countries ear-rings are worn in the lobe, and this style of decoration is usually confined to women.

Among the Masai ornaments are worn in the ear by men and women. When the boys and girls have passed through their "initiation ceremonies," the lobe of the ear is pierced and a thin spigot of wood inserted into the hole. Gradually the hole is enlarged by the introduction of thicker pieces of wood until it is large enough to receive a

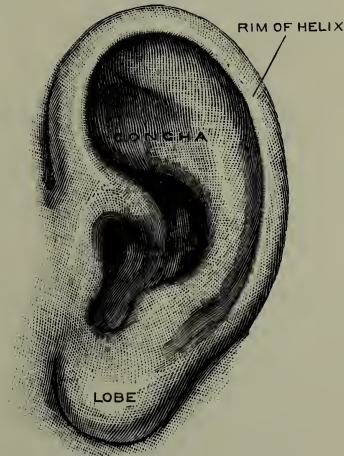


Fig. 31. The external Ear, or Pinna.

stone with a groove running round it. These stones vary in size, but the ultimate result is the transformation of the lobe into a rounded cord-like loop, which in the black ears of these men and women looks like a ring of india-rubber. Among the Masai the full

size is obtained when the cutaneous ring of one side will meet its fellow over the crown.

A big ear-plug was presented to the British Museum by Mr. A. C. Hollis: it weighs two pounds and fourteen ounces.

It might be thought that the ears of these people are larger than those of other men and women, but this is not the case. Indeed, Captain S. L. Hinde, who lived among these people in an official capacity for many months, states that the ear of the Masai when left to itself is small and of good shape.

An examination of some of these enormous ring-like lobes shows that

the tissue forming the loop thickens during the dilating process. When the lobe has been stretched to its utmost capacity it becomes the receptacle of many strange things, such as plugs of wood, rings of horn or of ebony; and occasionally a can or a gallipot will be found in it. The ear-lobe of the women is also dilated, and they wear a curious ear-ring, as well as a necklace of iron wire. These coils resemble the firework known as a Catherine-wheel. This type of ear-ornament,

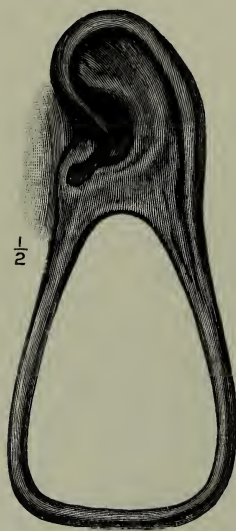


Fig. 32. The Ear of a Masai. The lobe is pierced and gradually dilated until it resembles a ring of indiarubber.

known as '*surutya*', is fastened to the lobe by a strap of leather with a kauri shell fixed to it.

In addition to the lobe, the helix is also adorned with ornaments of various kinds. In some the ornaments are thrust into holes made in the rim of the helix. The helix is perhaps more freely used by the Kikuyu than the Masai.

A superficial examination is sufficient to indicate that ornamented ears possess some social or tribal significance. This is indeed the case. Hollis has collected valuable information on this matter. Women wear necklaces of iron and ear-rings ('*surutya*') as a sign that they are married. Women's ear-rings are of great consequence, for no woman ventures to leave them off during her husband's lifetime. Should she happen to take them off whilst doing her work, she would, on his approach, run into the hut and resume them, so that he should not see her without them.

Boys and girls insert blocks of wood into their ears ; warriors and old men wear chain ear-rings. No Masai elder may wear the ear-rings called '*surutya*' unless he has children who have been circumcised and become warriors. When the father dies the whole family mourns for him ; the widows lay aside their ear-rings, necklaces, and beads for a whole year.

Thus it is clear that the ear-ornaments represent the age and the social state of men, boys, and women among the Masai ; and this doubtless is the case in other tribes, especially among a closely allied tribe, the Nandi.

The men and women of the Kikuyu country devote much care to the decorations of their ears, and, like the Masai, attach ornaments to the helix as well as to the lobe ; but the styles of ear-studs and ear-rings of

the Kikuyu differ in some particular from those of their neighbours.

The boys, when they are nearly ripe for circumcision, have the rims of their ears pierced in several places. Through the holes three, and occasionally five reeds are introduced which project from the rim of the helix, but lie in the same plane as the ear.



Fig. 33. The Ear of a Masai with a stone weighing nearly 3lb. *in situ*.

In the case of women five holes are made in the helix. In its simplest form the ornament consists of a piece of grass with a bead of gum at the base to prevent it from slipping out. Sometimes the ends of the reeds are fitted into a piece of leather which lies in the depression under the rim of the helix. Occasionally the reeds are adorned with coloured beads. A fairly common ornament for the helix is a piece of silver beaten flat like a leaf. It is

made from a Maria Theresa dollar. This coin formerly circulated freely in Africa.

The Kikuyu also distend the lobe of the ear like the Masai and fit into it a cylinder of wood, a can, or a gallipot. Objects of this kind are usually seen in the ears of men. The women prefer to fill the holes in their ears with large rings made of small beads threaded on wire. These bead rings are not only used in the large hole made in the lobe, but often the women have a long split made through the concha, and rings of beads are fitted into it.

It can be reasonably anticipated, in view of the great trouble, inconvenience, and, no doubt, some physical suffering involved in transforming the lobe of the ear into a rubber-like cord of tissue capable of surrounding a cylindrical jar, with a diameter of three or four inches, that these deformed ears are regarded by their owners with pride and

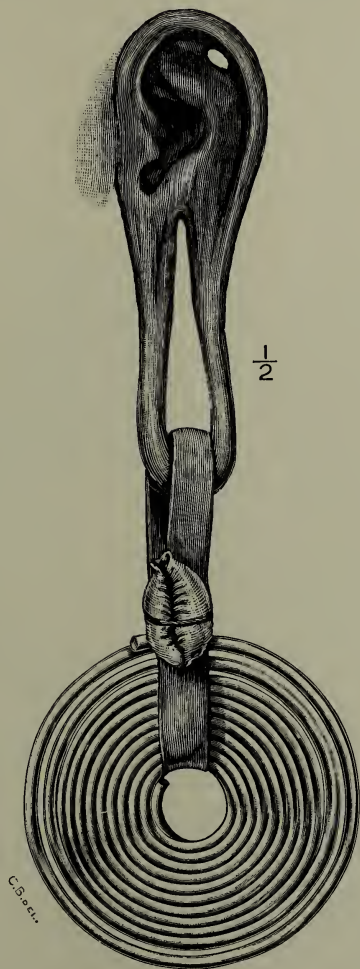


Fig. 34. Masai Ear-ring ('surutya').
No Masai elder is allowed to wear this ornament unless he has children who have been circumcised and become warriors.

their neighbours with envy. This is the case. To break one of these rings of tissue is a great offence.

The Kikuyu women when they quarrel snatch at each other's ear-loops and endeavour to break them. A surgeon in Nairobi has on several occasions succeeded

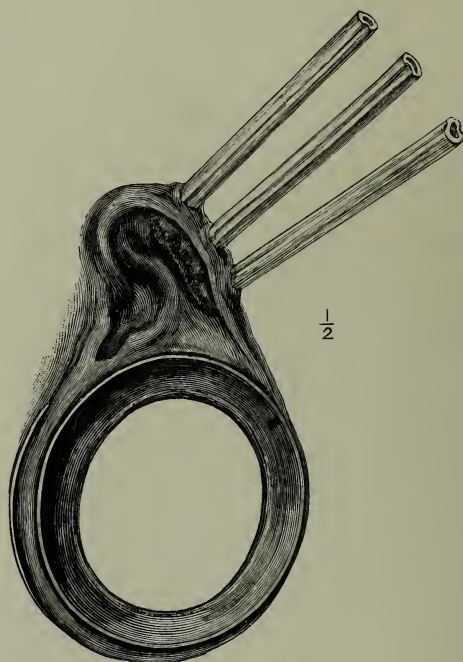


Fig. 35. Ear of a Kikuyu man with a ring in the lobe and reeds in the helix.

in uniting ear-loops broken in this way. Among the natives are men who practise plastic surgery of this kind successfully.

As a result of the British occupation of the Protectorate many Swahili, Masai, and Kikuyu have been trained as police (*askari*) and soldiers (The King's African Rifles). Ear ornaments under such conditions are not wanted, but in order to preserve the ear-loop it is hooked over the

helix, where it is safe from harm. As soon as the *askari* (native policeman) has finished his term of service, usually about three years, he returns to his tribe, abandons uniform, resumes ear-rings, spear, knobkerry (club), and skin; becoming once more an unclothed native, he smears himself with greasy clay, and joins the village dance. That these men should become policemen, and protect the tribes they formerly robbed and murdered, illustrates the conditions now prevailing in Masailand.

The love of personal adornment is very great among these people. Schillings tells of a Masai boy who had been many times to Germany and had mastered the language. On becoming a man he decided to return to his people, and was subsequently seen by a European who knew him, covered with clay and his hair in long plaits and dripping with grease, in company with a fellow-tribesman in full war-dress.

The mutilation of ears is by no means confined to human beings. The ears of cattle, sheep, and donkeys are marked for identification purposes. The ear-marks are of two kinds—branding and slitting. Among the Masai there is for each clan and family a principal mark, and all cattle belonging to the various members of a family are branded in a special way. There are also small marks by which the actual owner can be recognized. This is also true of the special method of slitting ears. Some of the ear-slitting designs are curious. On meeting Somali traders with a herd of cattle I always found it interesting to examine the odd patterns cut in the ears of the oxen.

One must remember that in the early days of the Israelites, if a man-servant wished to serve his master

for ever, a hole was bored through his ear "with an aul" (Exodus XXI. 6). Ear-marking is a very old custom.

Lip Ornaments or Labrets.—Some African tribes, especially those living in the Nile Valley, follow the practice of decorating the upper or the lower lip by piercing it and subsequently dilating the hole until it will accommodate a plug of wood, in some instances as large as that used by the Masai and Kikuyu for their ears. Several African travellers have drawn attention to this fashion, especially Schweinfurth in his description of the Bongo and Mittoo women (1873); Weule observed it among the tribes inhabiting the Makonde plateau and the surrounding country, and Tremearne (1912) in Northern Nigeria.

Discs of wood for the upper lip are known as *pelélé*. The lip is pierced with an awl when the girl is about eight years of age. The hole is kept open by a piece of grass and further enlarged by using thicker grass until it is big enough to take a piece of palm leaf made into a roll. In time the opening in the lip can receive a disc of ebony or wood two to three inches in diameter. Some of the women wear a metal pin or peg in the lower lip. This wooden plug is daily whitened with carefully washed kaolin. The girl's lip is usually pierced by her maternal uncle; the mother is responsible for maintaining and enlarging the hole. The day is kept as a festival when the first solid plug is inserted; when a girl with a labret chatters freely the eye can scarcely follow the motion of the disc, and when she laughs the comic effect is indescribable. Livingstone mentions the *pelélé* as being worn by women on the Zambesi (1856). Sekwebu, his faithful guide, remarked, "These women want to make their mouths like those of ducks." Subsequently, in the

Rovuma Valley, he saw men as well as women wearing the *pelélé*, and noticed that in some cases its pressure on the upper gum and front teeth caused an alteration in their natural curve, for the teeth and bone in which they were implanted curved inward instead of outward.

Schweinfurth states that the labrets among the Mittoo women are made of ivory, ebony, or quartz. When drinking, the women raise the upper lip with the finger. In some of the Suk people, the lower lip is pierced and in the hole a bird or porcupine-quill is inserted; sometimes a piece of brass or a tooth. The natives in some parts of South America known as the Botocudos wear solid lip ornaments, and their name is derived from this habit, for the Portuguese word *botoque* means a plug.

When Columbus discovered Honduras during his fourth voyage (1502) he named part of the seaboard *Costa de la Oreja* in reference to the ears of the natives enlarged by plugs.

X

THE DOROBO—THE NAKED HUNTERS OF THE MAU FOREST

PRIMITIVE man has often been depicted as living stark naked, hunting animals with bow and arrow ; eating flesh uncooked ; living in holes in trees, in caves, or under shelters made of boughs, leaves, or dried grass. There is no need to draw on the imagination, for the Dorobo living in the forests, bordering the Mau Escarpment, fulfil these conditions. These natural hunters live in the thick forests, where they shoot birds and the Colobus monkey with poisoned arrows. They obtain larger mammals by digging narrow pits, across their tracks. These pits are prepared at various angles and the game driven towards them : the animals stumble into the narrow pits and fall, breaking their legs and sometimes their backs. The largest animals are caught in regular game-pits.

The Dorobo use a peculiar weapon for hunting the elephant of which Thomson has given a good description. In shape it is something like the rammer of a cannon, the heavy head giving additional weight in dealing a blow. The thickened part holds a weapon shaped like a dart or arrow, the sharp end of the dart being smeared with a deadly poison. When the terminal piece is in position the whole weapon measures about eight feet in length.

With this spear the elephant is attacked at close

quarters ; the dart is driven into its body and, being loosely fixed in the handle, it sticks in the animal, while the handle of the harpoon remains with the hunter. Another dart is placed in the handle and the operation is repeated when circumstances are favourable. In making the thrust the hunter endeavours to stick the dart where the intestines lie in the abdomen.

The shaft of the arrow-like portion of this complicated spear is made of the wood of the wild olive. The wood of this tree is used for singularly varied purposes in different parts of the world. In East Africa it furnishes spears and sleepers : in Palestine, especially at Jerusalem, it is employed to make penholders and the covers of books, especially prayer-books and Bibles.

The Dorobo are quite naked while living in the woods, but when among white men, who employ them as trackers, they wear a blanket over the shoulders. Their ears are disfigured by helix-quills, by rings, and plugs of wood inserted into the lobes. They do not tattoo their bodies, but they dress their hair after the fashion of the Masai. They do not form large tribes, but conceal themselves among the trees where they live in holes or under shelters made of grass, and slink about the forest. Occasionally they come out to barter the

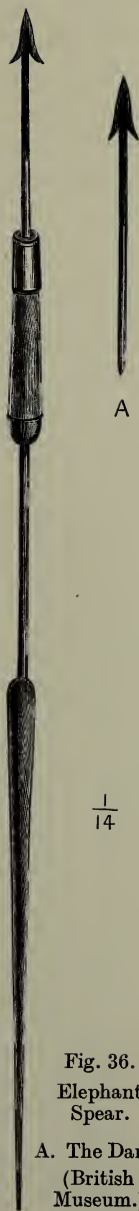


Fig. 36.
Elephant
Spear.
A. The Dart.
(British
Museum.)

proceeds of their hunting with the settlers. When an animal is killed they eat the flesh uncooked, and are particularly fond of the viscera, the paunch of ruminants, and the soft internal fat of the abdomen; often fighting with each other to obtain choice morsels.

The country in which these hunters live is full of



Fig. 37. Dorobo with large ear-buckets *in situ*.

flowers, and honey abounds. Like the Kikuyu, they are fond of honey and their hives are made on the same plan as the Kikuyu honey-barrels (see p. 24).

Ethiopian bees are very ferocious and many explorers have had trouble with them. Macdonald describes them as pugnacious, and with good reason, for whilst engaged in surveying for the Uganda Railway his caravan was

attacked by bees. On one occasion when the men were collected after a general stampede caused by bees a man was missing. When found, "his body, owing to the innumerable stings left in him, instead of smooth black skin, appeared to be covered with close brown fur." The poor man was placed in the hands of a hospital assistant but he died in five hours. On a similar occasion two donkeys were stung to death.

Almost all travellers in East Africa have had unpleasant experiences with bees. Profiting by experience, caravans, when passing in the neighbourhood of trees containing bee-hives or honey-barrels, observe strict silence, for bees resent noises and can quickly put a company of naked porters to flight.

The poison used by the Dorobo for their arrows and spears is obtained by boiling the leaves and branches of *Acokanthera Schimperi* for several hours; the liquid is strained and then reboiled until it is thick, viscid, and like pitch. It is kept in sheets of bark for use. Foulerton examined this inspissated juice and extracted a very poisonous glucocide.

An official informed me that on one occasion two men were quarrelling and one of them held his spear in such a threatening attitude that the other seized it with his hand and received a wound in the palm. The wounded man died in a few minutes with symptoms similar to those produced by a poisonous dose of strychnia. The poison will quickly destroy an antelope or a buffalo.

The Dorobo make fire by means of a fire-stick and drill. The apparatus consists of a soft piece of wood which rests upon the ground and usually known as the fire-stick; it is furnished with rounded slots, and in the edge of each slot there is a recess in which the dust made

by the drill accumulates. The end of a round stick is placed in one slot and made to revolve rapidly by the hands. This motion causes the soft wood to come away as fine dust, and the heat generated by the friction of the drill against the fire-stick ignites the wood-dust. While rotating the drill, the fire-maker keeps the stick firm by means of his toes. When the dust glows, a little



Fig. 38. Dorobo obtaining fire by means of a fire-stick and drill.

dry grass is dropped over it and some cautious blowing produces a flame.

All this seems delightfully simple. An expert native will obtain sparks and a fire in half a minute, but an inexperienced man may twirl the drill for an hour and then give up the work in despair. The drill must be twirled with a uniform motion, and the blowing to produce a flame from the glowing dust should be steady and even.

Smelting iron is probably one of the oldest industries in the world, and the art was discovered independently by different races of men. The occupation of Tubal-Cain exists among the natives of East Africa and is specially cultivated by the Dorobo. These men smelt the iron and make their own arrow-points and spear-heads. Many of the smiths employed by the Masai are Dorobo.



Fig. 39. The Colobus Monkey : it lacks thumbs.

In villages bordering on the railway it is easy to obtain imported iron. Thefts of iron along the railway used to be common and the chairs with which the rails are fastened to the sleepers were often stolen.

A smith's outfit comprises an anvil, usually of stone, a hammer, tongs, and bellows. It is easy to obtain specimens of their tools.

Colobus monkeys are peculiar to Africa. The common

species are remarkable for their coloration and length of their hair. The long white hair which looks like a mane on the sides of the body and the long tail with the fluffy white plume at its end are very striking. Both sexes have stiff white whiskers. They are known as thumbless monkeys.

They are found in dense forests and live almost on leaves which they tear from the branches in an impetuous manner; they also eat eggs of birds and sometimes young birds. Though they are so conspicuously coloured when seen apart from their natural surroundings, they are not easily seen when sitting on a branch in a tree-top on the edge of the forest, where the trunks and thick branches of the trees are thickly covered with long beard moss, and when they jump from tree to tree the hair of their bodies spreads out and they resemble lichen suddenly come to life.

XI

THE KAVIRONDO—THE NATIVES OF THE KAVIRONDO COUNTRY

THE natives of the Kisumu Province are very interesting. This province was formerly included in the Uganda Protectorate ; it has a total area of nearly 22,000 square miles and a population approaching one and a half millions. The Uganda Railway traverses the country between the Mau Plateau and Lake Victoria, known as the Kavirondo Plains, and it is extremely fertile. The mountains inhabited by the warlike Nandi tribe lie to the north-east, and the natural boundary, known as the Nandi Escarpment, sharply divides the Nandi and Kavirondo from each other. The Nandi were very troublesome, but a punitive expedition sent into this country in 1906 had good consequences and made them peaceable neighbours. It also allowed officers who accompanied the expedition to make some useful ethnographic observations. The Nandi were a perpetual menace to the Kavirondo. This helps to explain the mud, and, in some instances, stone walls around their villages. On one occasion, during the construction of the Uganda Railway, the surveyors wished to make arrangements for buying up a Kavirondo village that lay in the way of the railway. During negotiations the Nandi saved the surveyors this trouble by wiping out the village.

The natives of the Kisumu Province are very varied,

but those frequently seen along the railway in this part of its course are Kavirondo. As the train passes near their villages and *shambas* as the cultivated patches are called, men, women, and children will run out to watch the train go by and race each other to reach the line. Some assume the curious posture of standing on one leg (see p. 121).



Fig. 40. Although the girls and women of Kavirondo go about naked, married women wear a thin narrow girdle, which supports a tassel behind.

Kavirondo men, women, and children go about stark naked. Married women wear a thin narrow girdle around the waist with a tassel hanging behind. Matrons have a short leather apron ornamented with beads suspended from the girdle in front. The tassel, made of fibre usually obtained from a species of aloe, is about twelve inches long, dyed black, and very pliant. It is the especial mark of the married women. When a young girl visits another village, she wears a tassel or tail on her journey, but must take it off on reaching her destination and not don it again until she leaves. By wearing the tail she is taken for a married woman, and is not likely to be molested by anyone she may happen to meet on the way.

If a woman who has borne a child runs out of her hut in a hurry—for example, if she has been beaten—and

enters another hut without her tail, the hut she enters is considered unclean, and her husband has to give a goat,



Fig. 41. The "Mkia" or tail is made of fibre usually obtained from a species of aloe.

which is killed on the doorstep of the house, before it is considered to be purified. The meat is divided between the aggressor and the owner of the house.

A woman is not entitled to don the tail immediately after marriage, but has to wait a month or two; the husband then presents her with a goat wherewith to purchase it. If a man of the same tribe touches the tail he commits a great offence, even if he be the woman's husband. Unless atonement be made by sacrifice of a goat, it is believed that the woman will die of the insult. If it be torn off by an enemy or a stranger no harm is done.

The Kavirondo women are scarified on the belly. When a woman first becomes pregnant more elaborate scarifications are added as high as the breasts, and a belt of markings is carried round the waist. Scarification is a matter of choice with the men. Major Powell-Cotton, when among the Turkana and Suk tribes which live in a country adjacent to the Kisumu Province, noticed curious little scar-marks on the bodies of warriors, and it was explained to him that they were a tally of the number of the people the man had killed. For the first man slain a series of lines of little scars is made on the right arm by thrusting a needle through the skin and snipping off the piece so raised. For the second victim a patch of similar scars is made on the shoulder, for the third on the chest, and so on. The left side is similarly decorated according to the number of women killed. When the man's body is covered to the waist, his own decorations are considered complete, and he continues the record on the body of his wife. The patterns are not coloured as in tattooing; the skin is incised and then rubbed with an irritant which produces a thick scar.

The Kavirondo are keen traders and industrious cultivators. They grow in excess of their requirements and much of the produce finds its way into the local

market, especially that of Kisumu. Here fish, fowls, and eggs as well as milk can be obtained. They are fond of fish which they catch by rod-and-line and in traps.

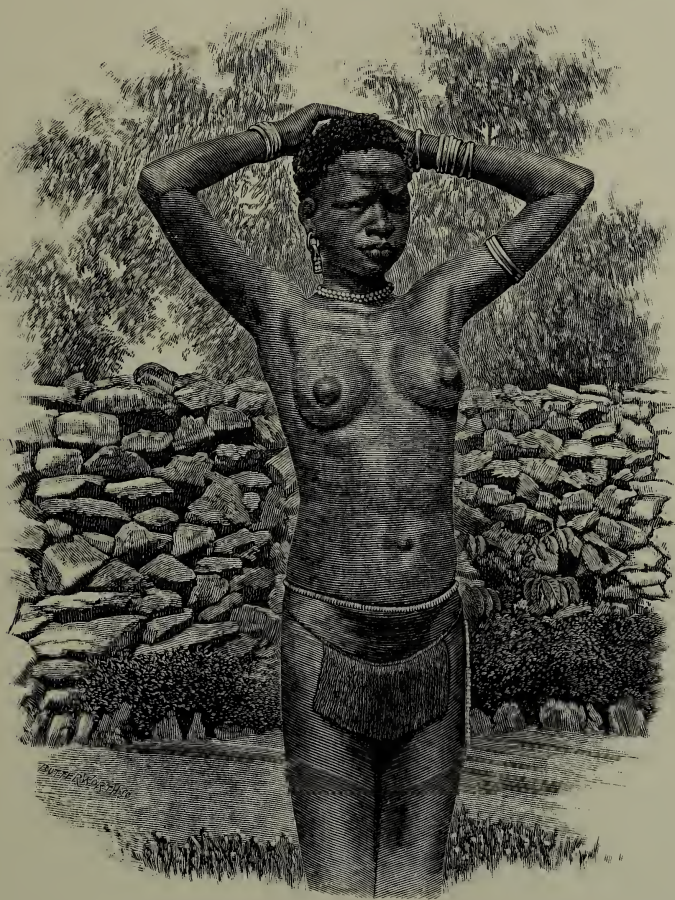


Fig. 42. Kavirondo matron wearing an apron made of fibre.

Around Kisumu we found them diligently fishing in the lake, and they appeared to obtain good catches of fish by means of seines of dried papyrus stems. The seines

are arranged in the water by a man on a raft made of dried stems of the papyrus, or of ambatch (see p. 39).

The Kavirondo keep cattle and use milk, but as readers of Thomson's description of this race know, they dilute it with cow's urine. They also clean the milk vessels with cow-dung. I made some inquiry into this matter and find it is the practice to keep the milk after



Fig. 43. Doorway in the Wall of a Kavirondo Village.

it has been mixed with cow's urine for two or three days, as these people prefer to drink it sour.

The Kavirondo smelt and work their own iron. Thomson described their methods; he was astonished at the dexterity with which the men worked a very primitive form of bellows. He found that with very crude apparatus they could produce from fifteen to twenty pounds of metal a day. The wire they made here is square instead of round, but it takes a beautiful silvery polish and is used in the form of rings to ornament the arms, legs, and necks of the fashionable young

men and women of the village. The blacksmiths are very clever and make spears, and agricultural implements such as hoes. They make baskets for fish, and neat cages for quails by plaiting grass. The quail-cages are quite a feature of their villages. They are suspended on long poles hung at a slant near the entrances and each cage contains one quail. When in use snares are set in the neighbourhood of the poles and the cage-birds are excellent decoys.

These people have many strange and unmentionable customs. Though wives are obtained by purchase, it is regarded as a shameful thing if a girl is not found to be a virgin on her wedding day, and the matter has to be demonstrated in public.

As in civilized communities, even the highest, the names of children are often suggested by some event happening at the time. For example, as Hobley points out, when Europeans were great rarities in the country, a child born on the day when a caravan camped at the village, would often be named after the leader of it, if he chanced to be well-known. Thus Jacksinis, Martinis, and Oblis, the native rendering of Jackson, Martin, and Hobley, are very common; Martin was Thomson's famous headman.

Livingstone recorded a similar observation in the following way : African natives have no written records, but remarkable events are commemorated in the naming of children. This especially applies to the visit of white men in the early days of European exploration of Africa.

The Kavirondo bury their dead in a grave dug in the middle of their own hut, but the habitation is not used again. A chief or other person of importance is buried in

the floor of his own hut, in a sitting position, with the head protruding just above the ground. The exposed head is covered with an earthenware pot and the

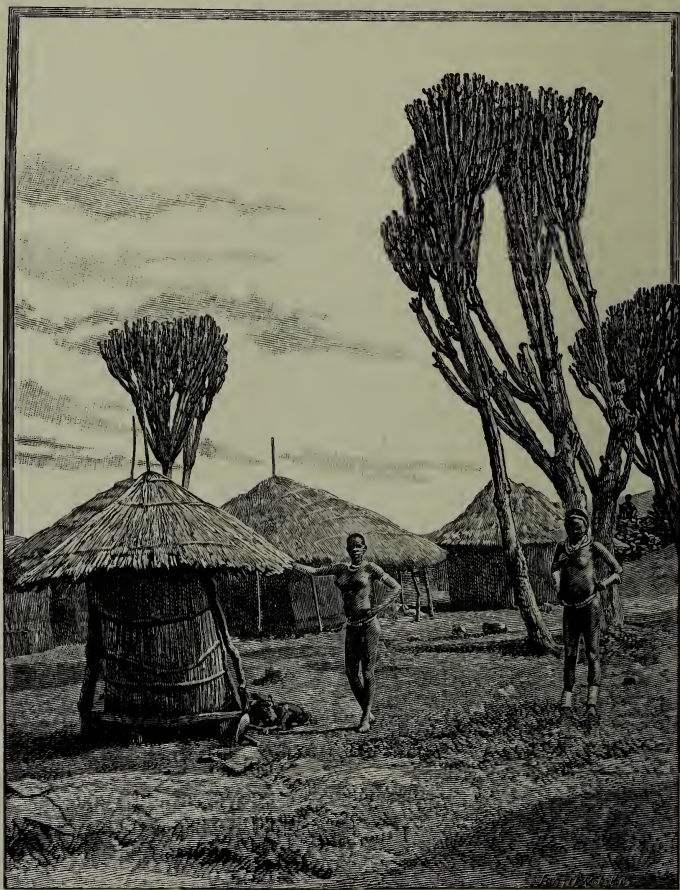


Fig. 44. Interior of a Kavirondo Village.

The smaller hut is a granary and access is obtained to its interior by lifting off the roof. The trees are *Candelabra Euphorbias*.

principal wives watch it, until the ants have completely cleared the skull of flesh ; the skeleton is then dug up and re-interred near at hand (Johnson).

It is an odd contrast to complete nakedness that the men adorn their heads with circlets of hippopotamus ivory, tusks of wart-hogs, large tufts of black ostrich feathers, or long tails of birds. They also weave hats of gigantic size which are worn on important occasions. They are made of basket-work plastered with clay, adorned with feathers, antelope's horns, and similar things, and are sometimes six feet high.

Belief in spirits, good and evil, is entertained by the human race, savage and civilized. The object of nearly all forms of religion is the propitiation of spirits.

The methods practised among the savage races and the tribes living around Lake Victoria for effecting this are curious and quaint. That which interested me most is the habit of wearing charms, and the natives of Kavirondo possess a multitude of such objects. All

primitive people are reticent on matters connected with their beliefs, and those in Kavirondo are equally shy on these matters. The natives of the lake-shore and its islands have such anthropomorphic notions of spirits that they build little fetish-huts or spirit-shelters in the fields or woods, wherein they place offerings of food and water. There are more altars in Kisumu

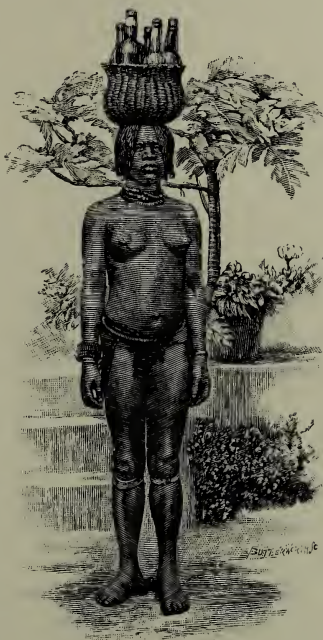


Fig. 45. Kavirondo Milkmaid.

Province "to the unknown god" than Paul found in pagan Athens.

There is a little doorway always open in the back of some of the huts so that the spirits of the departed may easily enter if they should perchance return ; a beautiful idea. Fig. 22, p. 68.

A charm, in the terms of the dictionary, is defined as " anything worn for its supposed efficacy to the wearer in averting ill or securing good." Those who wear them cannot always explain why such and such charm produce certain effects. Many natives near the lake plant a stick in the field and tie a feather from a white chicken to it, not with the object of scaring birds, but as a charm against hail. An old earthenware pot is stuck on the spike of the central pole of a conical hut to save babies from squinting. The customs for appeasing evil spirits are not always so simple.

Hobley induced a chief in a confidential moment to tell him the origin and character of the sets of charms he wore round his neck. They were :

Iron arrow-points, given him the day he was named.

A. A strip of thin iron with three holes punched in it. This signified the name of his grandmother.

B. A transparent rock crystal said to have been picked up in the lake. (Perhaps dropped by a visitor.) The crystal is secured in a neat leather cup.

C. A piece of yellowstone which was worn by his father.

Six Nya-Luo beads.

The dried beak of a chicken. He wore this on the advice of the medicine-man to prevent sickness.

D. A Bracelet of cord with four small sticks inserted

in it. The sticks are supposed to prevent the wearer from taking harm if touched by one of his children.

E. Portion of a marine shell, worn as an ornament.

A tiny bag of skin reputed to contain medicine for rheumatism.

Whilst I was writing these things, a clever, pretty lady came into my library. Although deeply and conscientiously devout, she was adorned with ornaments, bangles, and charms. Among the ornaments the subjoined may be compared with those of the Nya-Luo savage:

1. A tiny locket with a design in blue enamel which was given on the occasion of her confirmation.

2. A silver medal embossed with the figure of St. Anthony of Padua. Worn with the hope that if she lost anything, this Saint would help her regain it.

3. A pig carved out of Irish bog-wood. This had a piece of its leg broken off on the day her husband asked her hand in marriage. She wears it still, for luck.

4. A piece of turquoise supposed to come from a mastodon's tooth.

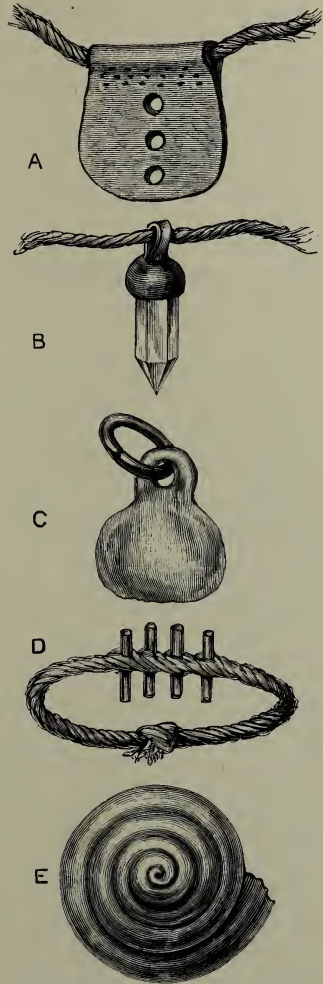


Fig. 46. Kairvondo Charms.

5. The key of a dispatch box suspended on a medal label impressed with the family coat-of-arms.
6. An image of the Virgin Mary carved in ivory.
7. A whistle to call cabs.
8. A vanity-case, containing a powder-puff, face-powder, and a looking-glass.
9. She also wore a small silk bag containing eucalyptus leaves as a protection against chicken-pox.

Almost all tourists in British East Africa are interested in the ornaments worn by naked natives. It has been pointed out already (p. 93) that the ear-ornaments possess tribal and social significance; it is also clear that the apparently commonplace adornments of these naked-people are full of meaning. In pondering on the superstitions of the Kavirondo let us not forget that palmists and soothsayers flourish in the populous cities of Europe.

XII

AFRICAN FASHIONS IN HAIR-DRESSING

A MONOGRAPH might be written on the various forms of hair-dressing adopted by the native tribes of Africa. The social status of an individual, as well as his tribe, is shown by the style in which the hair is arranged. In Africa the conditions of hair-dressing are the reverse of those which prevail in civilized countries, for it is the men who affect to have their hair dressed in extravagant fashion. The women adopt the simplest of all modes, for they shave each other's scalps, eyebrows, and other regions of the body. African women perform all the menial work of the village and have no time to spare for "beauty parlours."

Among the Kikuyu men some of the styles are very elaborate. A common plan is to roll the hair into curls around pieces of bast. Heads treated in this way resemble the backs of French poodles. Others imitate the style adopted by the Masai warriors, in which the hair is thickly anointed with grease, especially mutton fat, and red earth. Thus a heavy shower of rain would be disagreeable ; but, to meet this emergency the men, as I have said, carry the dried paunch of a sheep or goat with them, and in wet weather wear it like a nightcap. When not in use, this cap, which can be folded into a small compass, is tied round the waist. If a Kikuyu man has nothing to do he sits in the sun and plucks stray hairs

out of his body with forceps with the same industry that monkeys hunt their skins for fleas.

Among the Nandi the mode of treating the hair is full of meaning. Women and children have their heads

regularly shaved, but in some instances a patch of short hair is left on the crown.



Fig. 47. Man of Kikuyu wearing a cap made out of a goat's paunch, to protect him from rain.

Warriors let their hair grow long and plait the forelocks into tags, which are allowed to hang over the forehead, like a Masai. Occasionally it is all plaited into one pigtail behind. The Nandi also shave their eyebrows, and hair on the rest of the body is plucked out.

They shave their heads as a sign of grief, and throw the hair after removal in special directions, or carefully hide it. Many of these silly customs remind us of the superstitions held in many English villages concerning the disposal of teeth

after extraction, or the parings of toe and finger-nails.

Among the Nandi there are special rules concerning the treatment of hair, such as shaving for a sign of mourning and of defeat in war. It is significant in relation to circumcision, marriage, and child-birth.

Some of the tribes, neighbours to the Kavirondo, dress their hair in the extraordinary style of the Suk and Turkana. The hair is trained into what is known as a chignon thus: the youths allow the hair to grow long



Fig. 48. Suk with his hair worked into the form of a flat chignon. The little stool is placed under the neck when sleeping to prevent injury to the chignon.

Fig. 49. Shilluk with his hair dressed in a fashion which finds favour with the dandies of his tribe, and standing on one leg.

and rub into it grease, clay, and cow-dung which make it felt.

When a man dies the hair is cut from his head and distributed among his sons who incorporate this legacy into their chignons. This flattened mass on some men, reaches to the loin. The exterior of the chignon is ornamented with feathers and at the end there is a curled strip of rhinoceros horn; the feathers used to adorn it are not stuck into the hair, but large quills, about two inches long, are firmly fixed into the chignon to form sockets for the quills of the ornamental feathers, which can be inserted or removed as easily as a whip is placed in, or taken out of its socket.

These men wear a skin cape over their bare shoulders; and when it rains the cape is thrown over their heads to protect the chignon. They also carry a little two-legged stool which they place under the neck when they lie down, to prevent damage to the treasured chignon.

A fantastic method of arranging the hair prevails among



Fig. 50. Head of a Mashukulumbi with a fantastic chignon fifty inches high. The cone is formed of hair and the terminal section is a strip of horn from the sable antelope. (From a specimen kindly lent by Mr. F. C. Selous.)

the Mashukulumbi, a tribe living along the Kafue River (Rhodesia). Selous described the men. They go naked, not for necessity, for they have large herds of cattle, and hides, but because it is their fashion. Some of the Mashukulumbi have their hair, as well as that removed from the heads of their wives, worked into a tall cone two and a half feet high. The base of the cone is fixed to the back of the head, and made to curl forwards so that its apex is straight above the head, and to it is fixed a strip from the horn of a sable antelope. The strip is strong enough to stand upright, yet waves with every movement of the head. A cone of hair and horn sometimes measures five feet in height. In building these cones the hair is made to felt with grease, and as it cannot be washed when once worked up in this way, it soon swarms with vermin. A metallic stylet is stuck in the tuft to serve as a scratcher when the lice are too active.

Selous shrewdly remarks that men with hair dressed in this way must necessarily live in an open country ; they never could get through bush. Mr. Long, who visited the Mashukulumbi, informed me that this odd practice of arranging the hair is dying out because the neighbouring tribes laugh at the grotesque appearance.

A singular method of shaving the head prevails among the Ja-luo. If a man kills an enemy in war he must, to propitiate the spirit of the dead man, shave his head

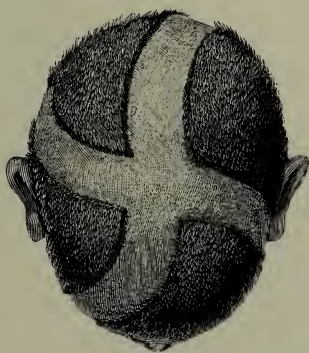


Fig. 51. Scalp of a Ja-luo man with a pattern shaved on it.

for three days on returning to the village. The men also shave their heads in curious patterns.

The Ja-luo ornament their ears in a peculiar way. they insert a number of rings along the helix, sometimes

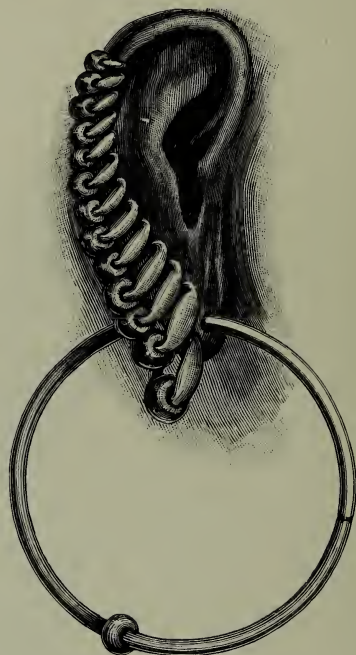


Fig. 52. Ear of a Ja-luo chief ornamented with rings bearing beads.

as many as fifteen may be counted in one ear. The rings bear a small bead known as Nya-luo; the majority are blue. They differ from the usual trade article. The natives state that they find them in the Maragolia Hills after a heavy thunderstorm; they believe the beads descend with the rain.

Note.—The Ja-luo live around the Kavirondo Gulf. C.W. Hobley, *Eastern Uganda, an Ethnological Survey*, 1902.

XIII

ON SAFARI, AN EAST AFRICAN PHRASE SIGNIFYING A CARAVAN JOURNEY

APART from the Uganda Railway roads do not exist in British East Africa. There are only tracks made by the bare feet of the natives, Swahili porters, and by cattle. The native tracks from village to village or to distant districts only permit the passage of man and beast. It is unsafe to use horses on account of tsetse-flies and ticks.

Consequently pack-animals for long journeys are Swahili porters, and in the days before the railway, a journey to distant parts was, and in many instances still is, a serious business. The traveller takes with him not only food, and often water, changes of raiment and other personal effects, but also tents, bedding, cooks, cooking pans, and other requisites for preparing food. The quantity and character of the supplies will be regulated by the size and length of time occupied by the journey.

When the safari is run for trading purposes, materials for bartering are carried: for example, beads and coloured cotton-goods; iron, brass, copper-wire, and things useful to the natives, and for which in return they will be willing to exchange food, tusks, and hides. The natives are no longer sold into bondage, but in past years slaves were important articles of trade.

When a safari is organized for hunting purposes it will include native trackers, gun-bearers, skinners, and men to assist in finding game and drive it to the hunter if necessary, to follow it when wounded, and retrieve it when it is shot. In fact trained natives take the place of sporting dogs in Europe, but they are more useful as they carry guns and bring quarry to camp. These men also skin the animals and birds, and some are able to prepare the hides and skins for preservation.

Sometimes a safari will be run merely for pleasure, much in the same way as a camping party or picnic may be arranged in England, but there is no wayside or general store to furnish eggs, butter, milk, or bread when the caravan runs short of food. The chief object of concern to the headman is water, and in moving camp from one place to another, it is a prime necessity to select a spot where water is obtainable. The length of a day's journey when "on safari" is invariably determined by the locality of water-holes and rivers. Every safari or caravan is armed. Firearms are also required for protection against wild beasts, as well as to provide food for the porters.

One of the objects of my visit was to obtain first-hand some knowledge of the country, the natives, the beasts, the birds, and the trees; therefore our safari was arranged to meet these intentions. It consisted of Comyns Berkeley, H. F. Henderson, and myself; two white hunters and my servant accompanied by a headman, and eighty natives. The composite character of this crowd may be inferred from the following list:

The headman and the gun-bearers were Somalis; the tracker was a Dorobo, the cook a Goanese, and the skinner a Kikuyu man; the table-boys and the syce

were Wakamba ; the three camp-policemen and the table-boys employed for the mules were Kavirondo, and some fifty or sixty Swahili porters carried the loads.

The Swahili porter is the pack-animal of East Africa and carries the load upon his head. The average load is sixty pounds, and he will carry it ten to fifteen miles a day without complaint over grass-plains, through scrub, marshes, or forest-regions. The porter walks barefooted and may often be seen, with his load on his head, picking up a stick, a cigarette or some trifle from the ground, with his toes.

It is the fashion in some parts of England to allow children to run about with bare feet. The chief drawback to this custom in civilized communities is the frequency with which the skin on the under surface of the big toe and the sole of the foot is cut with glass. The chief enemy of the barefooted porter when walking through the forest and scrub is the long, strong, and sharp thorns which lie about the tracks. It is quite common when the caravan is on the move to come across a porter sitting by the side of the track endeavouring to extract a thorn from his foot.

As soon as the porters arrive at the place selected for the camp the loads are quickly dropped. One set of men fix up the tents ; others obtain wood from the neighbouring forest ; the cook and his staff make a fire, and when the boys return with water the kettle soon boils and the meal is in preparation.

The boys in charge of the " chop " boxes arrange the table and when things go well, by the time the sun slips behind the rim of the world for the night, the camp fires are lighted to warm men's bodies and to scare away marauding beasts. After a long walk, when thoroughly

tired from hunting and exertion in the fresh air, one eats with fun and often with relish.

In due course a survey is made of the camp to see that the fires are blazing brightly and that there is a sufficient supply of wood ; the askari comes on duty armed with his rifle ; the openings of the tents are fastened, and, tired with the day's exertions, all sleep soundly in spite of the screeching of hyænas, the occasional grunting of a hungry lion, or the regular snoring of one's companion deep in sleep in an adjacent tent.

We had some interesting days, and in order to give the reader some idea how the time was spent a typical day will be described. For the first few days everything seemed wild and strange, but we did our best to be contented with the new situation. We started at Molo with the hope of obtaining a buffalo and then moved down to Njaro and finally reached Lake Nakuru.

As soon as the sun began to "decorate the morning sky," which is the picturesque Masai phrase for the dawn, tents were opened, and we bathed, shaved, dressed, and had breakfast. One evening we were obliged to camp at a place where there was no water ; when my servant awoke me in the morning he informed me that getting up would be a very simple affair, for there would be no bathing, washing, or shaving !

As soon as breakfast was over, we mounted our mules and went off with the hunter, tracker, gunbearer, and boys. We had rifles, shot-guns, and field-glasses. Our most delightful hunting-ground was the neighbourhood of Lake Nakuru. We made our way carefully through long grass to the north-west corner of the lake and descended the steep and precipitous rocks which exist on the side of the lake. Here we found the graceful

reed-buck and succeeded in obtaining some excellent specimens. On reaching the edge of the water we made our way to the northern end, which has a sandy shore bordered with thick reed-beds, interrupted here and there with hippopotamus tracks. Behind the reed-beds are dense thickets of thorn trees and spaces covered with



Fig. 53. Among the rocks we found many reed-buck and succeeded in obtaining some good heads.

green grass round the spot where the river flows into the lake. We were able then to satisfy ourselves of the nature and variety of the animal life occupying this dense thicket around the mouth of the river, for the soft sandy ooze was covered with tracings more thickly than the columns of the great temple at Thebes, and the language was easier to read. Here were the marks of

innumerable birds' feet : wading birds, duck, goose, ibis, and the pink feathers and bones of the flamingo. Among these footmarks by the edge of, and leading into the reed-beds, were huge footprints of the hippopotamus. In many places, in contrast to such depressions, were the

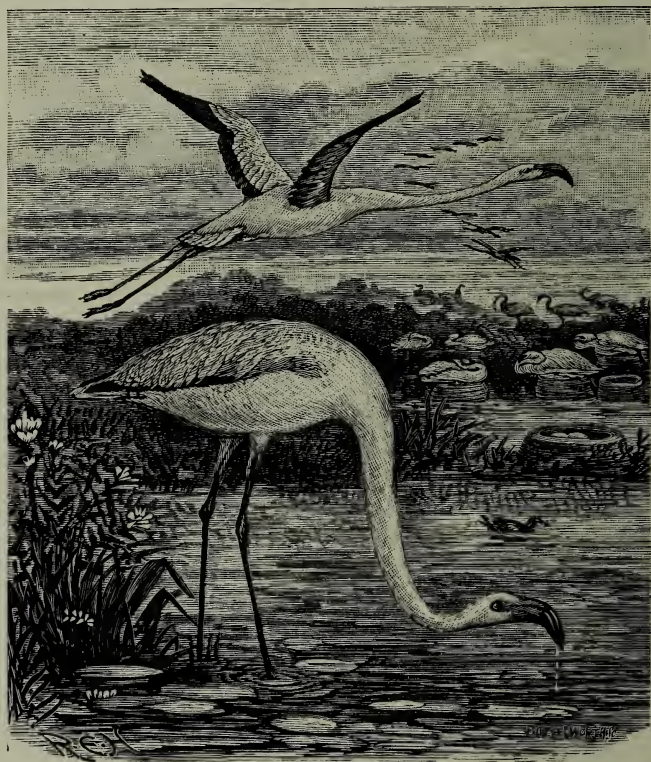


Fig. 54. Flamingoes.

small clear-cut impressions made by the hoofs of the water-buck. Whilst we were discussing them I happened to look across the reed-beds, and within thirty yards of us stood two of these beautiful antelopes—male and female—watching us between the trees, and as motionless as if they formed part of the thicket. They stood

quite quiet as long as we were simply content to watch them, but the instant the gun-bearer moved to hand me a rifle they were off like the wind. Walking along the shore we saw recent footmarks of a lion ; this warned us not to visit the lake unarmed.

One morning the lake was visited by an enormous flock of flamingoes. We gradually crept along the edge of the reed-bed to obtain a good view of them. The birds were so numerous that they covered about an acre of the lake. On approaching a few took wing, and as each rose it had the clumsy appearance of an aeroplane. Suddenly a gun was fired ; the huge flock rose, when the rustling noise made by the flapping of their huge wings reminded me of wind suddenly striking and rushing through the tall trees of a forest. The feast of colour, the magnificent cloud of pink which covered the lake as these birds sailed across it, defies description.

Towards midday we returned to the camp for shelter from the heat and to rest and lunch. Here we remained until four o'clock, and after refreshing ourselves with tea sallied forth again. We succeeded in shooting the rock rabbit (hyrax or coney) which lived in great numbers among the rocks near the camp, wart-hogs, guinea-fowls, and a lesser bustard. The birds were welcome additions to our larder. The wart-hogs afforded us some fun. The tracker caught sight of two hogs in the long grass, standing side by side in such a way that the snout of one hog was towards the tail of the other. One of the party fired a rifle at them with the intention of securing the two animals with one bullet. The Swahili proverb, " to aim is not to hit " applied here, for the bullet grazed the snout of one hog and the buttocks of the other, and so irritated both, that when the boys went to hunt them

out of the long grass they were chased by the hogs. The Somalis kept close to the guns and as the angry animals persisted in following the boys, it became necessary to shoot both hogs.

It is dangerous to hunt big animals in long grass, especially when they are wounded. Records of lion, buffalo, and rhinoceros shooting are eloquent in this



Fig. 55. The Head of a Wart-hog.
This is the ugliest mammal in Uganda.

respect. To show how completely big animals may be concealed by long grass, I may mention that on one occasion an antelope was shot on a slope covered with tall grass ; we left a boy to skin it whilst we returned to the camp for carriers to bring in the meat and hide. On returning to the spot where the antelope was being flayed, I could not see the boy or the topi fifteen yards away, although I was on the back of a mule.

Another time, while moving through long grass after a herd of impala, one of the most beautiful and graceful of all the antelope family, we heard the crack of rifles in a neighbouring forest where we knew our friends had gone for buffaloes ; we quickly left the grass-land and sought the society of trees in order to avoid the rush of



Fig. 56. The Impala.

the stampeding herd. The animals passed within two hundred yards, but the grass was so high that it concealed us. On this occasion the clever way in which a herd of buffalo directed by Mowgli effected the destruction of the tiger, Shere Khan, as related by Kipling in the absorbing *Jungle Book*, came forcibly to my mind. None of us were anxious to be trampled to death. A friend related to me a story in which a Dorobo,

whilst hunting a buffalo, was attacked and so crushed by the angry brute that the remains could only be recognized as those of a man by the fact that one of the hunter's feet stuck out of the mangled mass.

There are interesting cats in East Africa besides lions, leopards and cheetahs. Whilst in the Rift Valley we



Fig. 57. The Serval Cat.

had opportunities of seeing the serval cat. It is a pretty but untamable animal, very destructive to poultry. A settler hearing a noise in his fowl-house one evening sent a lad to see that the birds were safe, and not disturbed by cats. The boy returned to say that he had made them safe by shutting and fastening the door of the fowl-house. In the morning twenty out of twenty-three birds lay dead and a serval cat sat on the

cross-beam. The boy had shut the animal in with the birds !

The kittens of the serval cat are ferocious little brutes ; they scratch and bite vehemently. We saw a native in charge of one at Njoro, and the skin of his belly was freely cross-hatched by the claws of the pretty but fierce kitten in his charge. This unchecked scratching seemed to distress him very little.

We were bound to shoot a number of animals in order to supply our camp with meat. Porters when on safari are supplied with flour made from mealies, and they expect meat. When an opportunity offers these men will eat a very large quantity of flesh, and if the porters are kept well supplied with meat they are contented, happy, and not so likely to desert the camp.

Certain precautions are necessary in regard to the religious prejudices of the Mahomedans. The Somali gun-bearers carry a large sheath-knife in their belts for skinning animals when shot. When an antelope, zebra, or buffalo is shot and it is safe to approach, the Somali runs up with the object of cutting the animal's throat before it dies ; in such circumstances the Mahomedans will eat the flesh. Should the animal cease to breathe before the throat is cut by a Mahomedan, none will eat the flesh, but he will flay and disembowel the animal for such of the natives, who, not being followers of Mahomet, may choose to use it.

The high grass which abounds in the Rift Valley is the favourite haunt of the rhinoceros. This mammal, like the elephant, is a huge, ungainly representative of a giant fauna which was formerly common on the earth.

HARVESTING-ANTS

During our journey from Njaro to Lake Nakuru, the grass over a large part of the country had been fired, and in many directions it was burning briskly. In the districts traversed by our porters several elliptical areas of plain soil among the blackened grass attracted my attention. These patches measured in most instances three yards in the major and two in the minor axis; they were sunk slightly below the level of the surrounding ground and were as free from grass as a newly polished tombstone, and the surface was as smooth as if it had been finished by a plasterer's trowel. In the first instance I was interested in these smooth patches because on many of them we found game tracks, such as footprints of the impala, water-buck, hartebeest (*kongoni*), or the rhinoceros. These footprints stood out as plainly as the imprints of a hare, polecat, or rat on snow-covered ground.

On examining the bare patches more carefully, I found two or three circular holes surrounded by a ridge of dust an inch high, from which brown ants issued; near the edge of the patch there was a heap of husks, and on examining them they proved to be husks of grass-seeds. When the patch was situated in an area where the grass had been closely burnt it was easy to make out ant-paths radiating in many directions from the clear area, and the ants laden with seed could be seen travelling along them. I have re-read carefully Moggridge's description of harvesting-ants; I have no doubt that these elliptical patches of grass-free ground are due to the industry of these insects. The smooth appearance of the patch is due to the persistent traffic of multitudes of these small insects.

These elliptical ant-grounds were numerous in the grass-land around Lake Nakuru. They were clear of small stones, twigs, leaves, and grass, and were fairly uniform in size.

The lake had an irresistible attraction for us, and in whichever direction the party started it always found its



Fig. 58. The Silent Lake, the home of the hippopotamus.
The birds are the sacred Ibis.

way to some part of the shore. It was instructive and often of absorbing interest to watch the birds in the thickets, the wading birds in the water, and in the cool of the afternoon the school of hippopotamuses in the lake. The huge animals cautiously approached the shore for the purpose of reaching the rich green grass which grew luxuriantly along the banks of the terminal

section of the river. Then they would slowly raise their huge heads which looked like logs of wood floating on the surface of the water, survey the landing-place and open their mouths at being kept waiting for a meal of grass.

XIV

AN UNCAGED ZOO

IN London—indeed, in all large towns possessing well-stocked menageries—it is a favourite form of enjoyment, and certainly one full of instruction, to pass a few hours, on a fine Sunday, watching the birds, beasts, and reptiles. In many parts of Uganda beasts, birds, and reptiles and insects are so abundant that the country has been described not undeservedly, as an uncaged Zoo, and in this chapter I will tell how we spent a Sunday in it.

To see the animals in this uncaged Zoo, the visitor must travel sometimes great distances, endure much fatigue, often hardship, and show patience in its best form. In wandering about he must use eyes and ears to find the animals, and when found they are not labelled. It is not easy to recognize creatures on a plain covered with tall, dry, yellow grass and boulders of black rock. Under such conditions the yellow skins of lions and hyænas look much alike. Before leaving camp we fed the kites and buzzards. These birds are scavengers and pick up offal and fragments of meat. Some years ago in India I occasionally amused myself by throwing pieces of meat and liver high in the air to attract the keen-sighted kites. One of them would fly swiftly and catch the meat with its talons before it could reach the ground.

The visual acuteness of these birds is wonderful, for I often tried to deceive them by throwing a potato or small bread-roll into the air alternately with meat, but they knew the difference.

There is a Masai proverb which runs, "Do not show the hawk your bow or he will fly away." A beautiful hawk sat on a dead branch high in the tree watching our party proceeding to the lake. We stayed beneath the tree and I wanted to shoot a hawk for a specimen, but the instant the gun was handed to me by the gun-bearer the bird flew away. This happened on several occasions and I am sure hawks are as knowing as rooks in regard to fire-arms.

It is the practice of many settlers on the high-grass plateaus around the Kikuyu and the Mau Escarpments, as well as in the Rift Valley, to fire the long dry-grass. This method destroys young trees as well as ticks; such grass-fires sometimes get out of hand and destroy outbuildings as well as settlers' houses. On two occasions we were afraid that the fire would involve our camp in destruction. When the coarse dry-grass is burnt off just before the rain is due, young green grass makes its appearance in a short time and is visited by zebras, antelopes, and similar animals.

As soon as the grass is burnt, the blackened area left by the fire is hunted over by large birds such as hawks, kites, secretary-birds, and bustards: searching for small birds, grasshoppers, locusts, and other winged insects which, being singed by the fire, are unable to fly.

The great black-and-white bustard when disturbed has a curious way of flying around in concentric circles. When merely alarmed bustards rise clumsily on the wing and make a wide circuit before alighting, but if followed

up, make a narrower circuit and so on until they finally alight near the spot from which they were originally disturbed. Taking advantage of this fact, we were able, without much trouble, to secure some of these large birds for our larder. The flesh of a roasted bustard is as delectable as that of turkey. These large birds weigh more than twenty pounds, and some as much as twenty-five. Such birds will have an expanse of wing measuring eight feet. There is a smaller species of bustard which we obtained at Njaro.

I was interested in the bustard because two species formerly lived in England. The Great Bustard only became extinct in Norfolk about 1838. The smaller bustard still straggles to our shores. The museum at Salisbury contains two stuffed specimens of the Great Bustard, said to be the last examples of this bird shot on Salisbury Plain. When the gizzards were opened they contained, among other stones, some flint arrow-heads.

I have seen the Great Bustard stalking about the fields in the south-west of Spain, near Utrera. These birds eat berries, seeds, larvæ, molluscs, frogs, young corn, and juicy plants. A live frog swallowed by a bustard must have an uncomfortable time among the stones in this bird's gizzard. Imagine the agony of being slowly ground to death in a gizzard mill!

The bee-eaters, with their wonderful coloration, graceful forms, and activity, could not fail to attract the attention of the least observant. We watched them sitting on the twigs of a leafless tree, then suddenly darting in the air and snapping an insect on the wing, like a flycatcher, and returning to its bush. Bee-eaters are not shy, and allow a close approach. Their colours

are best displayed when the bird is on the wing. The Nubian Bee-eater is famous for its crimson plumage. When flying in the sun it is a brilliant object, but after death the colour rapidly fades. No one can realize the splendour of this bird from a prepared skin. The genus is very common in Uganda and is often seen in flocks.

The ground between our camp and the narrow belt of green-grass, reeds, and thorn-trees fringing the lake was covered with tall dry-grass in many places four feet high. Often it grows in small tussocks, and appears to form rows much like wheat when sown with a drill ; in this case the mules find their way easily through it. The ground was soft, sandy, and full of holes, some of them very big. The large holes were excavated by wart-hogs, and by an animal odd in shape, grotesque in appearance, with a name to match, *Orycteropus*. This strange animal digs holes in the sand with its feet, as its Greek name implies. The settlers call it the Antbear. The Dutch settlers in Cape Colony many years ago named it aard-vark, or earth-pig, but it belongs to the same group as the ant-eaters. It feeds on ants, is harmless, timid, nocturnal in habits, and its teeth have sorely puzzled anatomists on account of their peculiar shape. The hole made by the aard-vark is too small to accommodate the wart-hog, but to save himself trouble the hog appropriates a hole already excavated by his neighbour, and enlarges it to suit himself. The wart-hog is a lazy fellow, and only digs a hole just big enough to lodge his body ; and as he cannot turn round in the hole, he must enter it tail first. A large number of the holes are unoccupied, for wart-hogs often change their residence. It is easy to know which holes are "to let," for as soon as a hole is

deserted, a spider spins its web across the entrance, then flies, attracted by the odour left by the pig, are caught in this net, and so the cunning spinner thrives.

The settlers like sportsmen to shoot the wart-hogs, for the holes they make in the ground are uncomfortable and awkward traps for the feet and legs of men, horses, mules, and cattle. The hog's flesh some men find

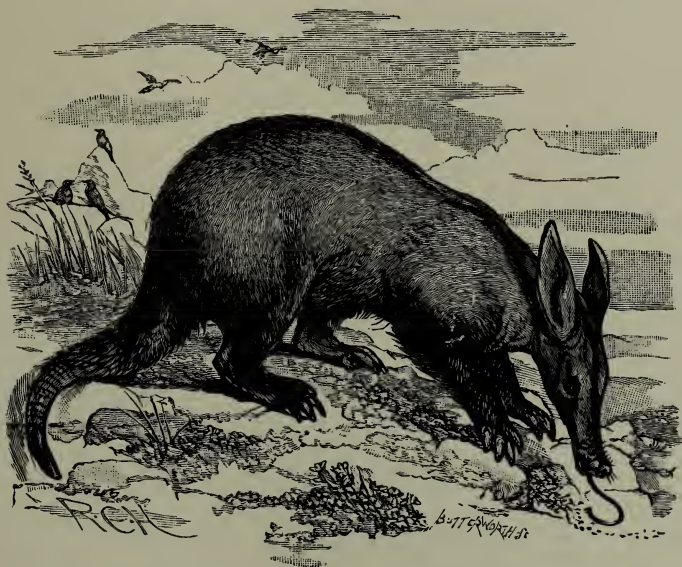


Fig. 59. The Earth Pig, Aard-vark, or Antbear.

palatable, but it is tough to eat ; moreover, it is useless for the porters, as many being mainly Mahomedans refuse to eat it on religious grounds.

These pigs are named wart-hogs on account of the fleshy prominences on their faces. They are ugly, repulsive-looking creatures, and when irritated can inflict nasty and even dangerous wounds with their tusks. The natives are glad to obtain their tusks for ornaments.

On the way to the lake, while following the winding course of the river, a waterbuck was shot. The bullet broke the spine near the sacrum and paralysed the animal's hind-quarters. As we approached it raised its head, which was ornamented with a pair of horns thirty inches long, and snorted defiance at us. Some photographs were taken of the noble animal and it was then killed by a bullet through the heart. When the animal was being flayed the skinner found a Snider rifle-bullet embedded in its flank, which must have been in the animal's body many months.

During the process of skinning and disembowelling the vultures and kites were flying in circles overhead, ready to pick up fragments that might be left on the ground. They found very few, for the native is very fond of the viscera, especially the paunch and the soft fat.

Conspicuous coloration of animals has been the favourite theme of many naturalists. No one should argue on such matters from observation made in a menagerie or a museum. It is difficult to imagine a more conspicuously coloured mammal than a zebra. The large black-and-white stripes seemed specially designed to betray it. On one occasion as we were proceeding to the lake the tracker gave us a sign to dismount, and pointed out some shadowy forms grazing quietly under a conical grass-covered hill. "*Ngombe*" (cattle), said the hunter. We moved a hundred yards closer, looked at them again through the field-glass, and realized that it was a herd of zebra. While wandering about this extraordinary Rift Valley or watching from the train in the late afternoon, I have been surprised at the peculiar shadowy tint assumed by these brilliantly striped

animals when standing with a forest or some tall bluff for a background.

Zebras are purely African beasts, and in British East Africa as common as hartebeests. They are among the first wild animals seen from the train after leaving Mombasa. It is almost unnecessary to write anything about these conspicuous quadrupeds, which combine some of the characters of horses and asses.

The mane of a zebra, like that of the ass, is erect ; the upper part of the tail is free from long hairs, and " chestnuts " are absent from the hind legs. Zebras are fertile with horses and asses, and hybrids have been obtained. Attempts have been made to utilize zebras and zebra-hybrids, but without success, for they lack the strength and endurance of horses, ponies, asses, or mules.

Zebras are, in a sense, a pest ; wandering over the plain, they break fences and trample over cultivated areas. They are good friends with ostriches, hartebeests, and Thomson's gazelles. The hartebeest are the friends and guides of zebras, and the latter never neglect their companions' signal of alarm.

Zebras will disappear before the march of civilization ; the lion takes heavy toll of them, but the settler is the biggest foe. In the grass land around Nakuru we saw their skeletons in abundance. The presence of these in the grass-covered crater-like depressions around Nakuru recalled to my mind a fact often referred to by geologists, namely, the great accumulation of mammalian bones in a limited area. Sometimes the bones are those of the same species of vertebrate animal, or they may be a mixture of incongruous species. Several explanations

have been advanced to account for such local collection of skeletons.

The Swahili traders believe in natural "animal cemeteries." Major Powell-Cotton describes one which he visited near Mount Zunut in the Toposa Country. He was surprised to find the whole country-side glistening with elephants' bones. His guide assured him that it was "the place where elephants come to die." This particular place was well known to the Turkana, who regularly visited it to carry off the tusks.

There are several modes in which mammalian remains may accumulate under alluvial deposits. Gregory, in describing the geology of the Rift Valley, found around water-holes acres of ground white with bones of the rhinoceros, zebra, gazelle, and antelope, jackal, and hyæna, and among them the remains of a lion. All the bones of the skeletons were there fresh and ungnawed. The year before, a drought had cleared both game and people from the district. Such animals as did not migrate crowded around the dwindling pools and fought for the last drop of water. "These accumulations were therefore due to drought and not to deluge."

The manner in which animals congregate in these grassy valleys is remarkable. Sometimes the gazelles are so numerous and so crowded that a valley appears a sandy yellow.

Many of the Uganda game-animals are of large size, and those who have only seen them in a museum, or alive in a menagerie paddock, might imagine them easy to shoot. But all wild animals are watchful, quick to take alarm, and antelopes especially can move from place to place with great rapidity. When feeding on grassy plains they are extremely difficult to approach

nearer than two hundred or two hundred and fifty yards. Surrounded as they are by predacious beasts and hunters, they soon appreciate danger. Every noise around them they appreciate with quickness ; even the notes and movement of birds are to them warnings and notes of alarm. We realized this when hunting, for whilst carefully stalking antelopes and slowly creeping through the grass, taking advantage of any slight rise or hillock, a hare would get up and run away, making, every few yards, curious bounds or jumps ; or a noisy bird, especially the black-winged plover, would fly and shriek. Then every head in the herd would be raised, and the animals would be off. Schillings, in reference to the harsh cries of black-winged plovers alarming game, calls them "the police of the wilderness in feathered uniforms."

On one occasion, when cautiously creeping into a thicket to get a careful and favourable shot at a herd of zebra, I heard a tremendous cackling and saw around me about fifty guinea-fowl, flapping their wings and screaming with their tails up, like turkeys in a farmyard. It amused me very much, but alarmed the zebras, who were soon out of sight over a ridge.

The oxpecker, or "tick-bird," is useful to the rhinoceros and the buffalo. All mammals are infested with ticks, which crowd on the bare spaces of their bodies. It is not uncommon to see ten or twenty of these birds on a rhinoceros, kudu, or buffalo, busily engaged in picking parasites. On the approach of the hunter they quickly give a note of alarm. The oxpecker is closely allied to the starling, which performs the same useful purpose for cattle and sheep in the British Isles.

When tick-picking the oxpecker rests on the whole foot and when in danger of being swept off by the tail of its host flattens itself or hops out of the way. It is stated that an oxpecker will attach itself to a particular animal.

The oxpecker will pick parasites from oxen and is



Fig. 60. Oxpeckers and buffaloes.

exceptionally fond of donkeys. White herons will perch on the back of cattle and feed on ticks, flies, and other parasitic insects. When elephants approach water, buff-backed herons swarm on their backs.

Close to our camping-ground near the lake there was an almost vertical wall of rock, about three hundred feet high, which formed one of the many irregular boundaries

surrounding the deep depression which this lake occupies. The face of this rampart-like wall was overgrown with grass, but there were many ledges and rocky platforms jutting from it, forming admirable playgrounds for a curious animal often termed the rock-rabbit. It runs about the rocks with facility, popping in and out like a marmot. One was shot and brought to me ; I immediately recognized it as a hyrax or coney. Its common name among the settlers is pronounced and usually written "dassie."

The hyrax is especially interesting because it is a puzzle to zoologists. In appearance it is like a rabbit, but when it is more carefully examined four fingers will be found on the front limbs and three toes on the hind. The nails on the toes are more like hoofs than claws.

The coney is widely distributed in Africa and is found in some parts of Arabia and Palestine. The occurrence of this animal in Palestine is noteworthy because the first mention occurs in the Pentateuch : " Nevertheless these ye shall not eat of them that chew the cud, or of them that divide the cloven hoof ; as the camel, and the hare, and the coney : for they chew the cud but divide not the hoof ; therefore they are unclean unto you " (Deut. xiv. 7 ; also Lev. xi. 5).

It is odd that so shrewd a man as Moses had some doubt concerning the zoological affinities of the coney, for he classes it with mammals as dissimilar as a camel and a hare, but it does not " chew the cud." The fondness of these curious animals for rocks is well set out in Psalm civ. 18 : " The high hills are a refuge for the wild goats ; and the rocks for the conies." (Also Proverbs xxx. 26.)

The hyrax eats vegetables, twigs, leaves, rough herbage and fruit. It can be tamed and makes a delightful pet. Some conies live in trees, they are very active and make loud weird noises at night : and for this



Fig. 61. This animal has many names. In the Old Testament it is the Coney. In Africa men know it as the Rock-Rabbit or the Dassie. Zoologists cannot agree on a suitable name ; some prefer Hyrax and others Procavia.

reason have been called "gnomes of the primeval forest."

On one occasion we pitched our camp at Molo (8000 feet above the sea-level) near a piece of thick forest. A few hours after sunset the tree-conies made a

tremendous noise, hissing and squealing for two hours or more. It surprised me, because I was ignorant that they made any noise and it equally astonished me to learn that they are nocturnal animals, and readily climb trees !

The water of Lake Nakuru is brackish : this makes it attractive to many birds, especially ducks and flamingoes, and to mammals, which will travel many miles to a salt-lick.

Among the immense numbers of birds which visit this lake I was able to recognize flamingoes, ducks, geese, swallows, bee-eaters, colies, shrikes, guinea-fowl, avocets, stilts, herons, wagtails, saddle-billed storks, ibises, screaming plovers, vultures, hawks, eagles, bustards, secretary-birds, and quails. An attractive bird found here in abundance is the vivacious brown chat with white patches on its pinions, termed by witty widows the flirting chat, because it spends so much time in courting the hens. These birds seem to be dancing, singing, or fluttering in the air as long as the sun shines.

The honey-guides have nothing to recommend themselves to the notice of man in the way of size or plumage. They are about the size of larks, with dun-coloured plumage and bills like sparrows. Some of these birds have the habit of leading men to the nests of bees. This habit was first described by Sparrman (1777), and his observations have been confirmed by many experienced African travellers, including Livingstone. The natives accept it as a guide ; and when they observe this bird fluttering from tree to tree, uttering shrill cries, they follow it, and invariably are led to a nest. In return for such services the guide is rewarded with a share of

the spoils in the form of a piece of comb containing grubs.

The sportsman finds the honey-guide a nuisance, for it occasionally happens that he is making a careful, silent



Fig. 62. The Honey-guide.

Natives find this bird useful, as it leads them to the bees' nests, but sportsmen regard it as a nuisance, for it alarms the game by its twittering.

stalk towards the game when the bird flies up and alarms all animals within hearing by its chattering.

Shrikes are numerous throughout the Uganda region, and there are many species due probably to the abundance of dense thorny thickets in which these birds live and which afford admirable protection to their nests.

A shrike perched on the topmost twig, or tree, keeping a keen look-out, is a characteristic feature of the Nyika, and its flute-like notes alarm game. Two particularly interested me. On the morning after our arrival at



Fig. 63. Bush Shrikes.

Lake Nakuru I was astonished to hear a call exactly like that of the Bell-bird (*Cotinga*), loud and clear like the sound of a hammer striking a ringing blow on an anvil. It was a long time before I could get these birds identified. One is a bush shrike and the

other is sometimes called the Organ Shrike. They inhabit the undergrowth, and though plentiful are shy and rarely seen. It is stated that organ shrikes pair for life. Many bush shrikes make weird noises, and as they have the habit of sneaking away in the bush, it is often hard to recognize the author of any particular noise or call. See p. 236.

XV

THE LION, MONARCH OF THE GRASS PLAIN

FROM the beginning of recorded history mankind has taken a keen interest in the lion. The Hebrew portions of the Bible abound in references which make the roaring of the lion share with thunder the distinction of being the embodiment of terror. Among our earliest stories relating to the lion is that which tells how David in his shepherd days killed a lion and a bear which had taken a lamb from his flock ; a mighty deed for a youth, and an earnest of his ambition to slay Goliath.

The name of lion is so linked with our language that we speak of lion-hearted kings, squires, and warriors. The animal is emblazoned on shields and banners ; it is the emblem of one evangelist and many saints. It appears in the arms of the King of England and is the symbol for British pluck.

To-day, the naked Masai armed only with spears and shields kill this ferocious brute, and with pardonable pride a brave warrior wears the mane as an adornment for his head on festive occasions and in war.

Those who desire to see the lion in a natural state can make his acquaintance in Kenya and Uganda. No one can live in, or visit, these countries without having his attention very forcibly directed to these animals.

It is a great shock to learn that the lion, which from

our childhood ranks in our minds as King of Beasts, is in Africa classed as vermin, and no licence is required to kill him.

The lion has no great use for human beings as food. It is true when old age affects his joints and his teeth are worn he takes to man-eating. Killing such strong mammals as the zebra, buffalo, ox, and donkey, his favourite food, requires agility as well as strength, whereas it is simple process to haunt the neighbourhood of villages and strike down defenceless men and women. A man-eating lion of this kind may, and occasionally does, terrorize a large district.

On our voyage to Mombasa we had an excellent opportunity of examining a lion at Aden. The proprietor of the largest hotel on this sun-burnt rock had a young Somali lion which he kept as a pet chained-up like a dog on the verandah. The handsome beast lived on mutton and milk : in spite of such good living it was docile and allowed the man who fed him to do whatever he pleased even to the extent of straightening out his tail in order that I might examine the prickle which is usually found at its tip. Whenever I see a lion alive or dead, a wish comes over me to examine the prickle hidden in the tuft of long hair at the tip of the tail.

Much of the doubt about this prickle is due to the fact that poetical imagination has pictured the lion goading himself to fury by lashing himself with the tail. This is a fable ; the lion could not even scratch himself with this caudal spike.

The lion at Aden illustrated very forcibly that, like other cats, he was nocturnal in habits ; during daylight he remained quiet and often slept soundly, but at even-tide he woke up, and as the darkness deepened he placed

his paws on the top rail of the verandah and roared at the "niggers" in the street below.

The lion in Uganda and Kenya must be considered from the point of view of the sportsman and of the settler. This great cat abounds in the high plateaus, and it has been killed at an altitude of 6200 feet by Major Powell-Cotton : but it thrives best at a moderate elevation. Lions are always numerous where zebra and antelope abound ; to these and similar animals they are a nightly terror. They often move about in company : Sir Frederick Jackson saw a troop of twenty-three near Machakos, and Newman once saw fifteen together north-east of Kenya. During the construction of the Uganda Railway the lions were a great nuisance as well as a real menace to those who worked on the line, and a reward of 200 rupees was offered to those who killed one. It happened that the driver of a traction-engine saw a troop of seven lions, and he managed in one morning to shoot the lot and thus secured 1400 rupees.

The fascination of lion shooting is easy to understand. There are five formidable game animals in Africa : lion, elephant, buffalo, rhinoceros, and leopard. It is only necessary to visit the country to find evidence among the sportsmen of personal damage, and many bold and experienced hunters have lost their lives in encounters with these dangerous beasts. Certainly there are conditions in which the lion appears to behave like a coward, and may be shot almost as easily and with as little danger as a buck, but when angry and wounded he is a formidable beast to encounter. Many agree with Kirby's opinion of the lion : " He is neither cur nor fiend and is only magnanimous when his stomach is full." The colour of the lion makes concealment an

easy matter in the long grass, while his agility, strength, and ferocity render it dangerous to meddle with him even when the hunter is a man of experience, coolness, skill, and courage armed with a perfect rifle.

An angry or wounded lion when "charging" requires some courage on the part of the assailant, for in this condition he rushes through the long grass with the tail stiff and erect, lips retracted, exposing the teeth and jaws, and uttering a hoarse, grunting roar. He may be described as ferocity personified, for "he is resolved on vengeance, or resolved on death," and not infrequently the lion is the winner. It is true that a charging lion will sometimes turn aside when hit, but it is equally true that after receiving a mortal wound his vitality is such that he has retained sufficient strength to kill, or badly maul, the hunter before dying.

On one occasion a hunter detected a lioness in some long dry grass. He carefully approached, and fired at her head. She fell apparently dead. Before venturing near the lioness he looked carefully around to satisfy himself that none other was about, when his boy noticed a lioness coming stealthily towards them. When the animal was within fifteen yards he fired and killed it. His surprise may be imagined on finding that it was the lioness he had previously shot: she had recovered from the shock and was coming for him. The two bullets had entered the skull accurately between the eyes about an inch from each other.

A hungry lion on a dark night is a daring and dangerous beast, and there are so many authentic stories which illustrate this side of the brute's character that it is unnecessary to add to them.

During my visit I was desirous to obtain first-hand

information concerning the ability of lions to inflict crushing blows with their paws. For instance, Patterson relates, in his absorbing account of the events around a water-hole which he witnessed one night from a thorn-shelter or *boma*, that a lion struck down a zebra by a blow on the neck. The observer in this instance was many yards from the scene of this midnight encounter, and, although it was bright moonlight, we must remember that the whole event is so quick that it is difficult to be precise as to details.

I can readily believe that, when a lion springs on the neck of a horse and fastens on with his teeth, the long canine teeth do occasionally penetrate the interspaces of the vertebral column and injure the cord in a very vital region and prove instantly fatal. Roosevelt mentions a case bearing on this, in connection with an adventure which befell Captain Slatter :

“The lion had sprung clean on the horse’s back, his fore-claws dug into the horse’s shoulders, the hind-claws cutting into its haunches, while the great fangs bit at the neck. After going some sixty yards the lion’s teeth went through the spinal cord, and the ride was over.”

The most instructive piece of information I have been able to obtain concerning the power of the lion’s paw to inflict a blow was furnished to me by Mr. Glazebrook.

Lions are sometimes shot at night by what is called the *boma* method. It is carried out in the following manner :

A *boma* capable of containing three men, the hunter and two boys, is made of thorn-trees. A donkey is hobbled to the *boma* ; the hobbling consists in binding the hind-legs together by means of a rope ; the fore-legs

are also tied together and the loose ends of the ropes are buried in the ground and made secure, so that the donkey cannot move and no rope is visible. A hole made in the thorn-fence enables the hunter inside to command with his rifle the area occupied by the bait. The men watch in turn ; if anything is heard it is communicated to the hunter by pinching his foot, snoring and whispering are inadmissible.

This manœuvre is best carried out on a dark night. The lion and all marauding mammals hate the moon. The earth's satellite must upset the calculations of hungry carnivora. They have no nautical almanac to inform them of its rising and setting.

On this occasion the hunter, after peering through the hole in the boma for two hours, fell asleep : the gun-bearer awakened him by pinching his foot, and he became aware of something moving on the ground rapidly, and this movement was followed by a tremendous crash. He could dimly discern a huge form standing over another form lying on the ground. He fired his heavy rifle at the dark object. This was followed by a heavy fall. On peering through the hole he could make out the donkey standing up.

At dawn, the lion was lying close up to the wall of the boma, dead. The bullet had entered its head. The donkey appeared to be uninjured, except for a few claw marks about its ears ; it was released from its hobble. Later in the day the donkey did not appear to be well and was re-examined : the top of the animal's head appeared as if it consisted of skin alone : no bone could be felt. The lion had smitten the head of the donkey so forcibly, and broken it in, that it appeared to be devoid of bone. Later in the day the poor beast was shot.

It is quite certain that when lions attack human beings they do not kill them "on the spot," as the phrase goes, unless they seize them by the head; then death is instantaneous. All who have read Patterson's thrilling account of the Man-Eaters of Tsavo will remember that some of the victims, even after they had been dragged through the thorn bushes forming the boma, could be heard shouting whilst in the grip of the lion.

Dr. Ansorge, a former student of the Middlesex Hospital, related to me the following experience :

In one of his journeys a lion had seized a sleeping porter by the thigh and was making off with him. The watch raised an alarm; the camp awoke and the men seized burning brands and rushed into the bush. The lion dropped the porter and made off. The injured man told a remarkable story :

"Though the lion had seized him and was carrying him off, he was still asleep. Our shots woke him up and to his horror he found that he himself was being carried off by the lion, and then he clasped his arms around the lion's neck and screamed."

In this instance the porter owed his escape to the fact that the lion ran against a strong projecting branch of a tree, which severely scraped the skin and hair from the animal's body.

Settlers dislike the lion, and with good reason, for it preys on their cattle and sheep, and destroys the ostriches. Moreover, they cause the zebras to stampede, and break the barbed wire fences around the farm.

When zebras abound in a district, in order to prevent them eating young crops, the farmer surrounds his property with barbed wire; this costs, with the posts, about £40 per mile. Zebras run together often in large

herds, and if it happens that a lion, lioness, and family are on the prowl, the herd becomes alarmed when these huge cats are in the vicinity, and often stampedes. If in the course of their mad rush they come against barbed wire, it will be broken down for many yards. One settler explained to me that lions find the wire useful, for when panic-stricken zebras rush the wire, one or more of the animals may be entangled in the loose ends and fall an easy prey.

Settlers find strychnia an extremely useful poison for destroying lions. They adopt the following method :

A zebra is shot and the carcass is partly flayed, and the exposed fleshy part has a few grains of strychnia spread upon it. The results are excellent. In one year a settler destroyed at least seventeen lions. The carcasses of nine were found near the bait and the skeletons of the remainder in adjacent parts of the farm after the grass had been fired. In addition, he poisoned numerous leopards and hyænas.

It is a fact worth remembering, in poisoning meat with strychnia, not to put much of the drug on the carcass. If the lion gets too much strychnia he will vomit and thus, getting rid of the drug, escape death.

The presence of lions in the neighbourhood of civilized communities is a source of much unpleasant excitement and occasionally terror. Some years ago, a man-eating lion was notorious for taking patients out of a temporary hospital built near a construction camp, close to a railway. In order to protect the hospital a strong boma was built around it, and two Englishmen decided to watch for the lion from the interior of a railway transport van. To enable them to watch the hospital they had the upper half of the door of the wagon

open : the lower half was closed for their own protection. In due course they saw the lion spring over the boma into the hospital compound ; but all doors had been secured. The two men watched closely with the hope of seeing the lion return from the boma and had their faces level with the top of the half-door of the van, when they were suddenly startled by feeling the lion's breath in their faces : the brute had attempted to seize them over the top of the half-door, but failed because he was unable to obtain a secure grip on the narrow edge of the doors. In the morning the marks of the lion's claws were obvious on the paint.

In contrast with a grim tale of this kind there are many like the following :

Lady Delamere was returning to her home after a dance : the native boy preceded her with a lamp. Suddenly a dark form rose between her and the lamp-boy with a savage growl and quickly disappeared. It was a lion.

It is well known to surgeons who have had the care of patients badly mauled with lions or leopards that the wounds do not heal kindly. This is easily understood, for such wounds are made by septic teeth and claws that have been tearing animal-tissues. Not only are the wounds slow in healing on account of the profuse suppuration, the sequel of the septic poisoning, but even when healed Dr. F. L. Henderson, who has had charge of several hunters who had been mauled, tells me that the scars are often persistently painful.

That scratches inflicted by feline animals are septic admits of ready demonstration. Terriers are very fond of worrying a cat and puss can only defend herself with claws. If the cat succeeds in scratching the cornea of

the dog which is annoying her, she has ample revenge, for the wound is sure to suppurate, ulcerate, and if the eye be not destroyed by the septic infection, a milk-white tell-tale scar will be left on the eye, as a souvenir of the dog's unworthy encounter with a cat. This sequel of a cat scratch indicates in a small way what happens when man is bitten or scratched with the dirty teeth and claws of a lion.

XVI

THE CROCODILE, LORD OF THE RIVER

CROCODILES exist in extraordinary numbers along the Victoria Nile. These dangerous reptiles make their home in the water, but bask on the sand-banks during the day. They are very voracious ; nothing comes amiss to them, whether rats, water-fowl, sheep, goats, antelopes, children, women, or men, and they probably kill more human beings than any other African animal. They are wonderfully adapted for the conditions under which they live, and are probably unique in having no enemies but man.

The skin of the crocodile is hard, and beset with scales ; the portion covering the back contains a series of ossified plates, or scutes, which form a reliable dermal armour.

Crocodiles emit a peculiar musky odour ; this is due to a pale-brown, greasy material secreted by two sets of glands. One pair is situated in the skin of the throat ; and others are concealed in the walls of the cloaca. The throat-glands are lodged in two pockets, and the entrances to them are in the form of slits in the skin, lying parallel with the lower jaws. I removed these glands from a recently killed crocodile ten feet long. The cloacal glands were as big as walnuts. Their minute structure was like that of the sebaceous, or grease-glands in the skin of man. The throat-glands were globular and half an inch in diameter. They differed in structure

from the cloacal pair and were more complex. Gadow states that when young crocodiles are excited the throat pouches can be everted like the fingers of gloves. In all probability these scent-glands belong to the same class of organs as the face-glands of antelopes and deer. The musk-bags of crocodiles are much prized by natives : some of them eat the flesh of these reptiles, but it is distasteful to Europeans. Those who have partaken of crocodile-flesh complain of its musky taste. The odour of crocodiles is especially obnoxious to me : during the years I made *post mortem* examinations of animals dying in the Gardens of the Zoological Society, London, the scent exhaled from crocodiles during dissection made me ill for several hours. It still exercises this unpleasant effect on me.

The respiratory mechanism of the crocodile is arranged in a cunning way to suit the requirements of a rapacious reptile which obtains its prey in the water, for terrestrial animals secured by these brutes are dragged under water and drowned. Crocodiles breathe by means of lungs which, as usual, communicate with the nasal passages by means of a wind-pipe (trachea) of the usual construction. Their nostrils are on the upper surface of the broad snout and appear as a pair of slits : each nostril is guarded by an oval sphincter which enables them to open and close the nostrils at will exactly as other animals can open and close their eyelids. I have not been able to satisfy myself that a crocodile can close one nostril independently of the other, as is the case with the eyelids in the act known as winking with one eye.

The tongue of the crocodile is thick, flat, and so fixed to the floor of the mouth that it cannot be protruded. The hinder margin of the tongue is raised into a transverse

fold which meets the soft palate and shuts off the cavity of the mouth from the pharynx. This arrangement enables the crocodile to lie completely submerged in water with only the nostrils exposed and respire freely without any risk of water entering the windpipe, although the mouth may be filled with it.

When swimming, the body of the crocodile is submerged ; the parts which remain above water are the snout and upper part of the head, with the eyes and ear-lids. The powerful tail is a very efficient swimming organ. If alarmed when swimming the crocodile sinks and may remain submerged a long time. The keeper of the reptile house at the London " Zoo " assures me that these reptiles will lie completely submerged in the tank for half-an-hour. Visitors often call his attention to a crocodile lying immovable at the bottom of the tank, believing it to be dead, and will not be satisfied until he has roused it with a rod. A crocodile has lived in the Zoological Gardens thirty-four years.

The crocodile is well furnished with teeth : they are implanted in deep sockets along the margins of the upper and lower jaws. The teeth vary in shape and in number in different species of crocodiles, but they are fairly constant in a given species. Sixty-eight or seventy teeth is not an uncommon number for a crocodile of the Nile. In some species of these reptiles the teeth interlock as thoroughly as the teeth of a rat-trap ; in others the interlocking is not so complete, but they are very efficient, for the strength of the teeth and jaws of crocodiles is such that they rarely let go any animal that is fairly seized.

Crocodiles and alligators in the Zoological Gardens occasionally break forth into a reptilian oratorio which

at times is awe-inspiring. These concerts are usually heard in the morning. A big alligator opens with a few preliminary roars; others join in and shake the reptile house with their din. The voice differs with the species. Alligators roar like lions. Crocodiles fill themselves with air and utter it with a tremendous hiss.

When Worthington¹ visited Crater Lake on Central Island in Lake Rudolf he found the crocodiles astonishingly tame. They had never seen man and showed no interest in the visitors, who on occasions threw stones on their heads "from two to three yards range" before they would consent to move into the open to be photographed.

The digestive organs of crocodiles are very powerful. Birds, small mammals, and portions of large animals are retained in a wide and capacious gullet until the stomach is ready to receive them.

The stomach is a globular organ not unlike a bird's gizzard; this is due to the fact that it has a tendinous centre in each wall. Stones are invariably found in the stomach of crocodiles: the number is sometimes large. A crocodile caught near Khartum lived seven months in the Zoological Gardens, Cairo. The stomach held two litres of quartz-pebbles, fragments of the hoof of an ungulate, and a splinter of water-worn bottle-glass. The digestive power of the gastric secretions is very great; animal flesh and bones are quickly dissolved.

Swynnerton, Game Warden of Tanganyika Territory, shot a large crocodile; its stomach contained antelope hoofs, tortoise-shells, and porcupine-quills. Also a

¹ The Lakes of Kenya and Uganda. *The Geographical Journal*, 1932, LXXIX.

number of metal bangles such as are worn as bracelets and anklets by native women, and a long strand of metal-cord. This strand of cord solved the mystery of the disappearance of a native boy, who was known to frequent the river bank in order to collect wood, the cord being similar to the type he used for tying his bundles together. These objects were exhibited at a meeting of the Zoological Society, London.

There are good reasons for the belief that some crocodiles, like aged lions, tigers, or leopards, turn man-eaters. An old crocodile shot in the Nile near Silsilis in 1887 had been a terror to the inhabitants of a long stretch of the valley. The following objects were found in its stomach :

Three hoofs of a sheep, a donkey's hoof, a donkey's bridle, and a boy's ear-ring. This crocodile measured fifteen feet nine inches and was reputed to be eighty years of age. Its skeleton is preserved in the museum of the Royal College of Surgeons, England.

The size of the crocodile has been greatly exaggerated. In the rivers and lakes of East Africa, and in the Nile itself, a crocodile measuring fifteen feet, from snout to the tip of the tail, is considered a big specimen.

The senses of sight and hearing in these wary reptiles are remarkably acute. No one knows the age to which they live. Crocodiles lay eggs, sometimes to the number of three score. The eggs are white, oval, and possess hard shells ; they are laid and well-concealed in sand out of reach of moisture, for this causes them to decay quickly.

The *Varanus* lizard or monitor is fond of crocodile eggs and is an adept at finding them in the sand. This lizard attains a length of five feet and is common in the

upper reaches of the Nile : it lives in trees and in water, and generally plunges into the stream when disturbed. *Varanus* lives largely on fish and no doubt captures and

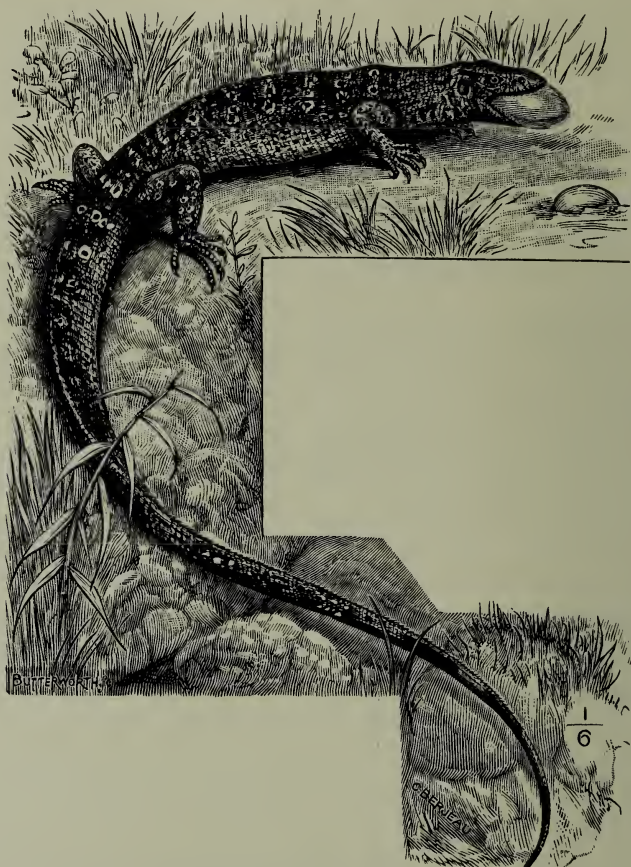


Fig. 64. Monitor swallowing the egg of a crocodile.

eats small mammals and birds : it uses the long heavy tail as a whip, especially when driven into a corner. Visitors to the Zoological Gardens, London, have seen the monitor critically examine an egg with its forked tongue, then take the egg into its mouth, crush it, and

after swallowing the contents eject the shell. Monitors are very particular as to the quality of an egg.

At the present day the plover behaves to the crocodile as the oxpecker to the rhinoceros, hippopotamus and buffalo, for it hops about their bodies and rids them of the vermin which lies in the creases of their thick skins. This bird has been called the crocodile's living tooth-pick. I have endeavoured to surprise the bird engaged in picking teeth but without success, and have never met with a hunter or traveller who has seen it at work. Even Livingstone during the whole time he was in Africa "never witnessed this friendly act." The boatmen on the White Nile point out a plover which they call *Ghaffir* (watchman) for the following reason: when a boat approaches crocodiles lying on the banks or sand-pits, the bird flies up twittering and warns the sleeping reptiles. The buff-backed heron, sometimes called the cow-heron, picks leeches, etc., from crocodiles as well as ticks from cattle and elephants.

The danger which human beings run from crocodiles appears to vary in different localities. In the Nile, these reptiles are dangerous to men, and particularly to women who fetch water from the river. In many parts of the river this risk is so appreciable that it is the custom to fence off the watering-places with stakes, to prevent women being seized by crocodiles when dipping their jars. The fear of these brutes is hereditary among the natives.

The frequent reports of trustworthy observers indicate that large crocodiles lie in ambush in shadowy parts of the river, or swim on the water like a log of wood, and suddenly knock an unwary man or woman into the water by a swish of their powerful tails. When fishing in

crocodile-haunted water it is dangerous to stand too near the river's brink.

The leading features of such captures are : A loud and piteous scream, a violent agitation of the water near where the victim was standing, which only lasts for a few minutes, and the tragedy is complete.

XVII

THE CRATERS OF THE RIFT VALLEY

To appreciate the features of the Rift Valley one must realize that Kenya and Uganda represent an enormous area of which the coastlands are low. On leaving the coast the land rises in a series of plateaus until a broad zone of high ground is reached, varying in height from 6000 to 8000 feet. This zone presents remarkable evidence of stupendous volcanic action. It is furrowed by a gigantic trench known as the Rift Valley. Projecting around the margins of this high tableland there are three enormous mountains crowned with perpetual snow: Kilimanjaro, Ruwenzori on the Congo side, and Kenya in the east. There are isolated smaller mountains such as Elgon, Longonot, and Suswa, and the Aberdare Mountains with the high peak of Kinangop.

The Rift Valley differs from the common kind of valley in the character of its lateral boundaries. In valleys, as a rule, the sides slope gradually from the high ground to the low, but in this valley the sides are, in places, as steep and abrupt as those of a grave. Indeed the traveller may suddenly come to the edge of one of these steep walls and run a risk of tumbling over. Steep boundaries of this kind are called "escarpments"; thus, along the eastern side of the Rift Valley in its deepest and most pronounced section we have the Kukuyu Escarpment and the Laikipia Escarpment. On

the western side there is the Mau Escarpment, the Kamasia Escarpment, and so on. The characters of the fauna and the flora on the plateau east and west of the valley are alike. The floor is a tract of the tableland which has sunk many feet below the level of the surrounding plain, but the subsidence has not affected the area equally. The central portions have sunk most; even in this feature of the valley abruptness is its chief characteristic, for in crossing it, the traveller will find himself traversing a series of terraces, sometimes a mile or more wide, which suddenly terminate with a boundary as vertical as the wall of a fortress. The faces of these scarps afford some indications of the immense force which led to the formation of this trough-like valley. They show that the rock has been torn through, and the fractured surface presents the same rough appearance as a sugar-loaf rent in twain. The abruptness of the changes is very remarkable. Gregory, describing his journey to Baringo, relates that he was walking ahead of his caravan when suddenly, without the slightest warning, he found himself on the edge of a precipice 1900 feet in height. For some hundreds of feet the cliff was absolutely vertical. The change was so startling that for a moment it made him feel giddy.

We had a similar experience during a visit to Menengai. After examining the crater we made our way along to the southern side and suddenly found ourselves on the verge of a vertical wall of rock, absolutely bare of vegetation, black, rough, and stern.

Several writers hold the opinion that the Rift Valley represents a portion only of an extensive depression which contains the Jordan Valley, the Dead Sea, the Red Sea, and the Gulf of Aden. In Africa this depression

continues a south-westerly course until it reaches Lake Rudolf. It then divides ; the western arm of the valley curves around Lake Victoria and ends in the district of Lake Nyasa. The other shorter, or eastern arm, runs directly south, following the 36th meridian of longitude, terminating in German territory. Thus the two arms of this huge trench are separated by 6° of longitude. It is this eastern arm with which we are concerned. Lake Victoria lies in the area included between its eastern and western arms.

There is geological evidence that great earth movements have occurred along the Rift Valley at a recent date, which makes it probable that native traditions of great changes in structure of the country are recollections of geographical events. "If all the air and water were removed from the earth, this huge rift would present much the same aspect to an inhabitant of the moon as some of the larger lunar rills present to us." (Gregory.)

The section of the valley bordered by the Kikuyu and the Mau Escarpment has a width of twenty miles. The floor of the valley in the neighbourhood of Lake Naivasha is 6300 feet above sea-level. The edge of Kikuyu Escarpment is 1400 feet above the floor of the valley and that of Mau is 8300 feet above sea-level.

The Kikuyu Escarpment is abrupt and the forest runs up to its edge. The floor of the valley resembles a narrow plain containing broken hills, sheer walls of pumice, extinct and active volcanoes and steam-vents, in addition to a chain of lakes.

Among the extinct volcanoes on the floor of this valley mention must be made of Longonot, Suswa, and Menengai. Longonot stands as a very imposing cone on the floor of the valley. Thomson climbed this mountain

in 1883 and found on reaching the top that he was on the "sharp rim of an enormous pit." It was not an inverted cone, as volcanic craters frequently are, but a vast circular cavity, with perfectly perpendicular walls, without a break in any part, though on the south-western side rose a peak several hundred feet above the general level of the rim. The margin of the crater is so sharp that Thomson "sat astride on it with one leg dangling over the abyss internally, and on the other, down the side of the mountain." The bottom of the pit seemed quite level; it was covered with acacia trees. There were no bushes or creepers growing from the walls.

Gregory investigated this mountain in 1892: its lower part consists of a series of platforms or terraces of lava. The rock is black trachytic pumice and contains a good deal of obsidian (volcanic glass). The cone is in the main composed of lava. He discovered a large steam-vent on the inner face of the north wall of the crater and climbed the peak on the western side mentioned by Thomson and found it 1800 feet higher than the rim of the crater. He mentions that at the point where he reached the rim of the crater it had been worn by zebras into a cinder track, and that a descent could easily be made into the crater on the southern side. The height of Longonot is 9300 feet. Hobley also climbed the mountain. He informed me that the crater is 1300 feet deep. Near Longonot there exists a deep vertical split in the rocks and the exposed surface of the rock in this cleft presents an arrangement of basaltic columns resembling that of Fingal's Cave. The recess is a favourite resort and breeding-place for vultures.

Concerning Suswa I can give no information. I had no opportunity of climbing it and have not met anyone

who had ; but whilst at Nakuru I took the opportunity of visiting the extinct crater of Menengai. The ascent would be a pleasant ride were it not for the tall coarse grass which covers its sides and makes the journey troublesome for men and mules. The exterior of this cone, like Longonot, presents a series of platform-like terraces with fairly steep slopes between the platforms. The edge of the crater on the side near Nakuru is well marked ; the inner is a steep, grass-covered slope several hundred feet long, which ends abruptly at an almost perpendicular wall extending to the floor of the crater. The crater is reported to be eight miles in diameter ; the grass on the outer slopes near the summit, as well as on its inner face, was traversed by game tracks. The crater itself is visited by elephants, zebras, antelopes, and lions. A herd of eland occasionally graze in it, and we obtained an example of Chanler's Reedbuck in the crater itself. After the animal was shot the " boys " showed great fear about descending into it for fear of lions. This, however, did not prevent us enjoying the extraordinary spectacle presented by the valley when seen from a height, especially the peculiar purple light which tinges the edges of the escarpments when the sun shines on them.

On the grass floor of the valley we could distinguish, with the aid of field-glasses, a herd of zebra, Thomson's gazelles, and several ostriches. With great reluctance we turned our backs on this fantastic vision and descended the slope on the side of Menengai nearest Lake Nakuru. On the way down the mountain we saw Lake Elmenteita glistening in the sun like a sheet of burnished silver. The hunter hurried us along, because lions were known to lurk about the long grass here,

and he thought it advisable to reach Nakuru before sunset.

It astonished me very much to find a crater in the Rift Valley with its sides clothed with tall grass, its floor



Fig. 65. Giant Groundsel from Kenya. It attains a height of sixteen feet; the stem usually branches twice or thrice, and is surmounted by a flower-spike three feet high. The flowers are orange-coloured.

occupied by a forest, and the whole basin large enough to afford food and shelter for herds of wild animals, some of them—rhinoceros and elephant—being the biggest mammals living on the earth to-day.

Mount Elgon is an extinct volcano with a base forty miles in diameter. The greatest altitude at the rim is 14,200 feet. The crater, eight miles in diameter, is crossed by a native track from north to south. Snow falls on the highest points of this mountain, but does not lie long. Joseph Thomson discovered this mountain in 1883 and described it as an outpost of the great central lava-field of Masailand. This explorer also reached the remarkable caves on the southern slope which have puzzled everyone who has visited them since his day. The upper slopes of Elgon are clothed with dense forests formed in part of bamboos : the lower slopes are very fertile and bananas grow abundantly.

The discovery of glacier-capped mountains in the equatorial zone of East Africa has an air of romance : Kilimanjaro was unknown to Europeans until the missionary Rebmann saw its silver-crowned summit in 1848. The natives told Rebmann that the silver-like stuff, when brought down in bottles, turned into water. The news of the discovery of a snow-covered mountain under the equator was received with incredulity by geographers until Thomson's observations were published (1883).

Krapf saw Kenya in 1849, and the mighty mass of Ruwenzori filled Stanley with astonishment when he saw its snow-clad peaks suddenly issue from their cloudy obscurity (1888) for three days in succession. It is important to realize that the traveller may be in the vicinity of these lofty mountains for many days without being aware of their existence. So far as Ruwenzori is concerned, we must remember that Stanley had a thousand men within visual distance of this mountain for seventy-two days, and no one suspected its existence

until one day the clouds parted and unveiled its magnificent white peaks.

Woosnam, in his account of the Ruwenzori Expedition, 1905-6, stated that one of the most characteristic and at the same time, most objectionable, features of Ruwenzori is the ever-present cloud which forms every morning and veils the upper regions in gloom and moisture. It disappears almost regularly at sunset, the mountains being nearly always clear of cloud in the night. This is why these mountains remained undiscovered so long. The clouds form at an altitude of 9000 feet and drift upwards, and about 10 a.m. the mountain is obscured.

Similar cloud conditions prevail on Kenya and Kilimanjaro. The summits of these mountains are visible at daybreak and at 4 p.m. They are very beautiful as they peer above the clouds. No wonder the Masai regard the glacier-covered summit of Kilimanjaro as the "home of a god."

LOBELIA GROUNDS

There are some curious floral conditions on Kenya, Kilimanjaro, and Ruwenzori, associated with this persistent humidity. The lower slopes of Kenya are clothed with dense forests of junipers and podocarps, in which herds of elephants roam. Half-way up the mountain (8000 to 10,000 feet) there are forests of huge bamboos in which the stems are so tightly packed together that only an elephant can force a way. Those who climb Kenya must traverse the bamboo zone and the way is cleared by cutting the bamboos with billhooks. When bamboos attain a height of fifteen feet they begin to branch and the long, thin leaves interlace, forming a dense canopy. Above the bamboo forests the

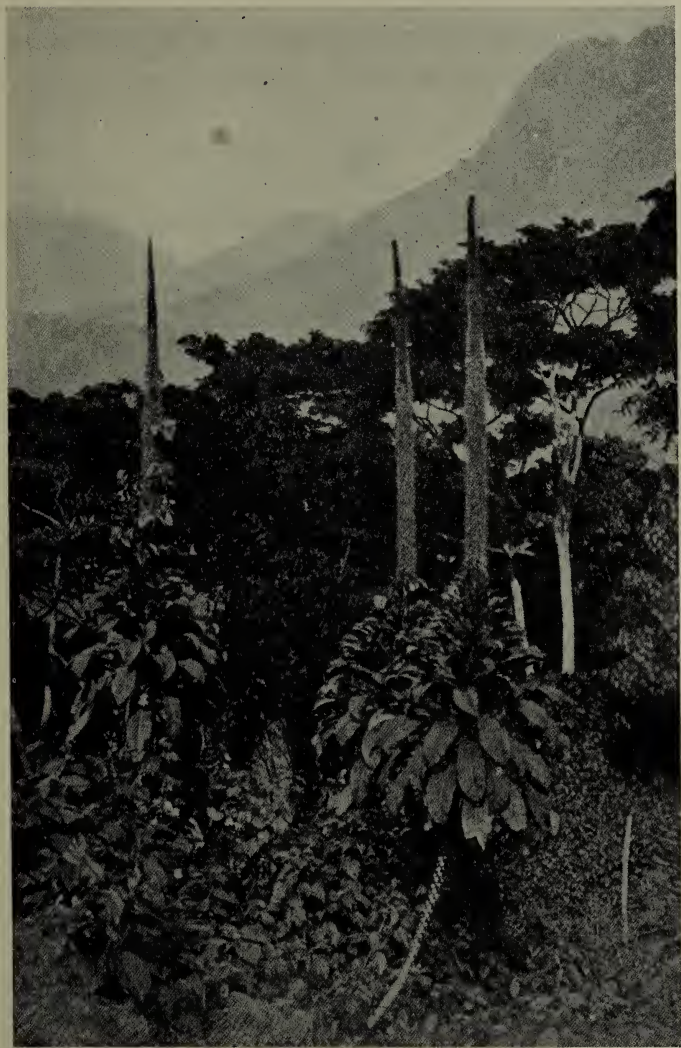


Fig. 66. *Lobelia Wollastoni* on Mount Ruwenzori, Wollaston,

flora is very remarkable and consists of giant groundsel occurring in groves. There are lobelia grounds carpeted with thick moss, and the tree-lobelias when in flower are visited by flocks of beautiful sunbirds (see p. 237). A



Fig. 67. Giant lobelias.

species of St. John's wort assumes here a tree-like form, and the everlasting flower *Helichrysum* flourishes up to the level of the snow. This pretty flower takes the place of Edelweiss in alpine regions. At an altitude of 11,000 to 12,000 feet the ground and tree-trunks are covered with an extraordinary growth of moss. In these humid

places the heaths grow into trees, some of them fifty feet high.

The arborescent groundsels have been studied by Woosnam on Ruwenzori. At first a senecio is a small plant not unlike a cabbage: gradually the stem lengthens and gives out branches with a tuft of bright green leaves at the end. As the plant grows, the old leaves shrivel and droop, hanging down the stem one upon another till the upper parts of the branches near the green tuft are transformed into great swollen masses of dead leaves tightly packed together. These senecios attain a great age, which it would not be too much to estimate at anything from fifty to one hundred years or even more.

The lobelias are more remarkable than the groundsels. They are found on Ruwenzori, Kilimanjaro, and Kenya. On all these mountains from 7000 to 15,000 feet these tree-lobelias flourish and many attain a height of over fifteen feet.

A tree-lobelia consists of a basal portion crowded with aloe-like leaves. From the stem, a flower column or spike arises. This in some species is hollow and lined with pith. The flowers grow out at right angles to the column and are borne in the axils of the bracts. These bracts are long and often give the flower-column a ragged appearance. The sepals are light-green and the flowers dark-violet. When the flowers are mature they produce an exquisite shimmering of colour. Woosnam is of opinion that the lobelias live to a great age, but it is a long time—perhaps fifteen or twenty years—before they blossom. Once a lobelia has reached the stage of producing a flower-spike and bursting into blossom it has reached the end of its life. It may take twelve

months for the spike to finish blossoming. Then the whole plant withers and dries up, stands probably for several years ere it falls and is swallowed up by the moss.

Giant lobelias flourish on the Abyssinian Mountains. Each lobelia is regarded by the natives as the abode of an evil spirit that has been cast out of a man. He will do no harm so long as the lobelia is left uninjured.

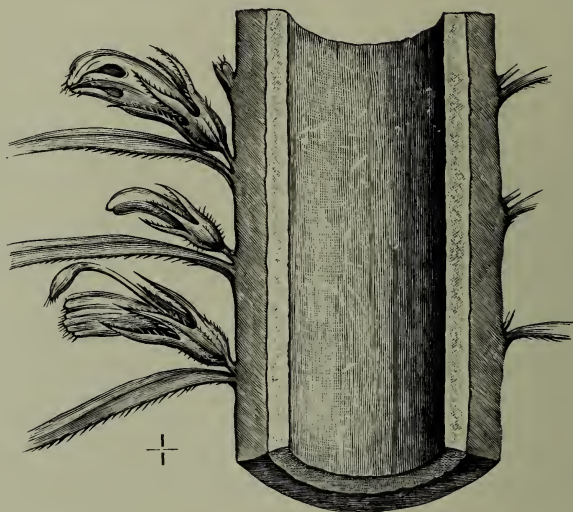


Fig. 68. The flower-column of a Tree-lobelia,
L. Telekei, Kenya ; real size.

The blossoms are shown open and closed. The
sepals are bright green ; the petals, violet.

At this date (1933) giant lobelias may be seen at Kew. One fine specimen is about 30 feet high, crowned with a tuft of large green leaves. The stem resembles a tall thick cabbage-stalk from which the leaves have been plucked. It is labelled *Lobelia Gibberroa*. The second name is a native Abyssinian name for the plant.

On some of the lakes in the Rift Valley hunters and travellers may see an ambatch canoe. Ambatch is the

native name of a leguminous tree with very light wood. The pith-tree grows near the margin of a lake and may attain a height of 15 feet. It has a fairly straight stem, When dry, the stem being filled with pith is very light. To make a canoe the stems are bound together with the inner bark of the tree and the seams are caulked with drift vegetable matter found near the margin of the lake. The canoes are propelled by hand ; sometimes with wooden paddles. The canoe is built to hold two men. I became acquainted with ambatch canoes on the upper reaches of the White Nile, where it is used by Shilluks. This pith-tree is an important constituent of the Sudd.

There is a good Ambatch canoe in the British Museum.

XVIII

ANTELOPES

ANTELOPES are almost as peculiar to Africa as Marsupials to Australia. In Kenya they occupy the plateaux and grassy plains in thousands, but are becoming less abundant as the country is opened up by European settlers. Some of the big antelopes, especially the kudus, have diminished in number since 1890, when the rinderpest destroyed these magnificent animals wholesale. Buffaloes and gnus also suffered badly in this epidemic. Antelopes belong to the family which contains oxen, sheep, and goats. So far as the external characters of these animals are concerned the chief distinction between them and the deer family is the horns. An antelope is an easily recognized animal, but there is scarcely any term less easy to define than antelope. To-day it is applied to any sheath-horned ruminant not coming under the designation of ox, sheep, or goat. The term has a popular but not a scientific significance.

That Africa is the headquarters of antelopes may be gathered from the fact that out of thirty-five genera no fewer than twenty-four are African. In the course of a journey from Mombasa to Uganda an observant traveller will note examples of a dozen genera of these interesting and beautiful mammals.

Those which come nearest the sheep and goats are

goat-like antelopes—beautiful animals possessing spiral horns without rings, long tails and small face-glands. In many the ornamentation of the skin takes the form of vertical lines and rows of spots.

The best known forms are : Cumming's bushbuck,



Fig. 69. The Bushbuck or Harnessed Antelope.

Speke's antelope, greater kudu, lesser kudu, and the eland.

In reading works dealing with deer and antelopes reference is often made to what are called face-glands. These are pits, pouches, or deep folds of the face of the skin immediately below the inner corner of the lower eyelid. The skin forming this pit is beset with glands, and when the animal is excited, an unctuous fluid

exudes from them. Sometimes the pit opens and resembles the nostril of a snorting horse. In certain antelopes, especially the oribi, the face-glands are large and occupy deep depressions in the facial bones below the orbits. The glands are conspicuous when the animals are sexually excited. The secretion in some species is black.

Bushbuck or harnessed antelopes are common, but there is great variation in their colouring in different localities.

The bushbuck is about thirty inches high at the shoulders and weighs 150 pounds. The horns resemble a two-tine fork the prongs of which have twisted so as to form an open spiral; a good pair will measure about twenty inches over the curve. The female is hornless. Bushbucks are usually found in thick bush in the neighbourhood of water, and dart quickly in and out of thickets. At times they lie close in cover. They are difficult to shoot, but their flesh is very tender and delicious. When travelling along the Uganda Railway I often saw these antelopes jumping away from the line in a nervous excited style. In Kampala I watched one quietly feeding in a garden within twenty yards of a house inhabited by Europeans. Sir Frederick Jackson states that French beans and scarlet runners are irresistible attractions to them.

Speke's antelope (Situtunga) lives among the islands of the Sesse Archipelago in shaded forests at the waterside. It is a reservoir for Trypanosomes. (Hale Carpenter, see p. 34.)

Kudus are very handsome antelopes. There are two species, the greater kudu and the lesser kudu. They are allied to bushbucks on the one hand and elands on the

other. The horns of the kudu have more twists than those of the bushbucks, and the spiral is more open than that of elands. Horns are absent in the females. The greater kudu has a mane extending along its throat, as well as a dorsal mane along nape and withers. The tawny coat of this magnificent animal is marked with narrow vertical white stripes. It prefers hills covered with thickets, but it is also seen along the banks of rivers as well as in thorny jungles on the plains. Kudus are met with in pairs or in small parties. On looking at its horns, which may measure five or six feet along the curve, one thinks that they would be in its way when scampering through low trees and brushwood. Under such conditions the kudu lays its horns flat on its back and rushes without hindrance through the thickets to escape its enemies.

The lesser kudu has no long hair on its throat, hence its name *imberbis* (beardless), and the horns form a closer spiral. These animals are difficult to shoot on account of their peculiar coloration and the thickness of the bush in which they live, and where they love to lie up in the heat of the day.

The greater kudu exists around Lake Baringo, and a good specimen shot by Powell-Cotton in 1893 stood five feet nine inches at the shoulders and weighed 654 pounds. Kudus must be fairly abundant in Somaliland, if one may judge from the number of horns of these antelopes offered for sale by natives at Aden to the passengers on the great ships which call there. This may account for the frequency with which their horns are met with as trophies in Uganda, although the animal itself is rare in the Protectorate.

Elands, the largest of all antelopes, are distinguished

by their horns, which present a closely-set spiral near the base. The cows have horns which are usually longer than those of the bulls. In the young animals the horns stick up as plain spikes. The longest pair of cow eland horns obtained by Selous measured two feet ten inches ;



Fig. 70. The Greater Kudu is a magnificent antelope.

this hunter also states that the horns of very old bulls are often worn down to little more than a foot in length. A big eland will occasionally attain a height of nearly six feet at the withers and weigh over 1500 pounds. Its flesh differs from that of most antelopes as it contains a fair amount of fat. The Masai will eat the flesh of the eland as they consider it to be like beef, but they disdain

the flesh of antelopes. Many settlers esteem eland beef, but it is much overrated. One enthusiastic writer considers "a cut from the brisket fit for a monarch," but this would of course depend upon the condition of



Fig. 71. Elands. Bull and bull-calf. The horns are at first straight spikes.

his majesty's appetite. A settler near Lake Elmenteita informed me that a herd of eland crossed his farm twice yearly on the way to the crater of Menengai ; he looked out a fine bull, and after shooting it pickled the flesh for his own consumption and regarded it as beef.

Many attempts have been made to acclimatize elands in the British Isles: they breed in the Zoological Gardens, London. In the Kikuyu country I saw a young eland bull running with cattle, and at Njaro an eland bull six months old in a pen with calves.

The roan and sable antelopes belong to a genus which

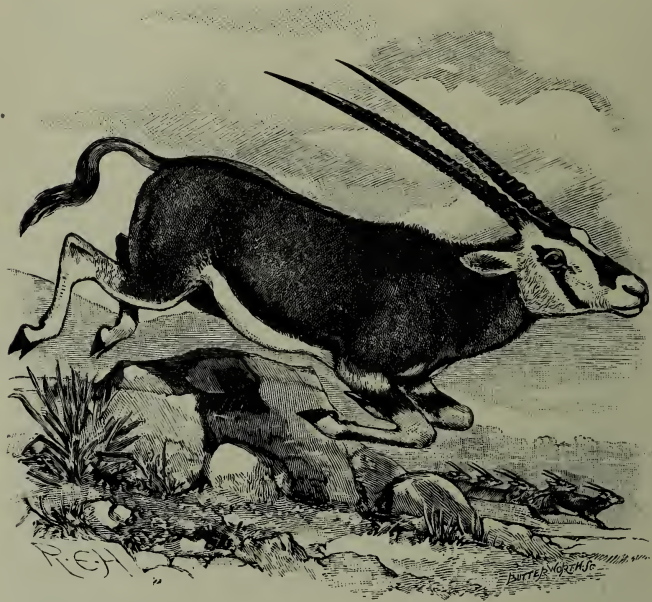


Fig. 72. The Beisa Antelope.

has no popular name. The roan is a handsome animal standing four feet high at the withers, furnished with large gracefully-curved horns; its colour is a rich dark glossy brown, and with white stripes on the face: the belly is white, and there are four teats as in oxen. The muzzle is hairy and the tail long and tufted. Roan antelopes frequent wooded uplands in herds from ten to twenty individuals. They are endowed with great speed

and staying powers, and are dangerous to approach when wounded.

The oryx is a well-known antelope distinguished by long straight horns which slope backwards, and lie more or less in the plane of the face. The oryx stands four feet at the shoulders and weighs from 400 to 450 pounds. The horns, which sometimes attain a length of three feet, are annulated in the basal and polished in the terminal half. The horns of the female are thinner and apt to be less symmetrical than those of the male.

When wounded or brought to bay the oryx is a bold antelope and must be approached with caution, for he will sweep the ground with these long horns in a determined fashion. The oryx can go without water for a long period, depending on the heavy dew for moisture.

Chapman witnessed a fight between two oryx bulls at Baringo where these antelopes are plentiful, and states that they "sparred with their rapier-like horns, each seeking to gain the other's flank." He succeeded in shooting the victor; the hide was scarred with wounds from a score of fights, and in the skin of the neck, which was nearly two inches thick, found an encysted bullet. The hide of the cow in the same situation is comparatively thin.

The Baganda in their arts and crafts make good use of material derived from the horns and skins of antelopes. The hides furnish them with a covering for their bodies, shields, and drum-heads. Useful things are cut from the hides of elands to tether and bind cattle. The sheath of the kudu's horn and of the marshbuck make excellent trumpets and the convolutions emphasize the sound. Blasts from such trumpets can be heard afar, in warfare, and on ceremonial occasions.

The small horn-sheath of the steinbucks or duikers are made into whistles, and portions of the horn-sheaths of the oryx make tobacco-boxes. The horns of buffaloes and oxen are made into boxes and serve as receptacles for the " charms " of the medicine man, and for grease. Kikuyu belles sometimes encircle their waists with girdles made from the toe and finger bones of small antelopes.

XIX

GAZELLES AND GNUS

THE gazelles form the largest genus of the antelope sub-family. Among the characteristic features of gazelles should be mentioned ringed and often lyrate horns ; face-glands (tear-pits), and a short tail. They are of moderate size in comparison with other antelopes, sandy-coloured with white bellies, dark stripe along the flank and, as a rule, dark face-marks. Gazelles possess one feature impossible to describe either in prose or poetry, the beautiful limpidity of their eyes. They live in open and more or less desert districts, but in the “ rolling seas of grass ” of the Rift Valley they abound in vast numbers ; their sandy-coloured coats harmonize well with the tall yellow herbage which grows abundantly in the district frequented by them.

The pretty antelope named after Joseph Thomson, who discovered it during his journey through Masailand to Lake Victoria (1883), is abundant in the country between Kilimanjaro and Lake Baringo. Its northern limit lies a few miles above Lake Nakuru. Both sexes possess horns which are larger in the buck than in the doe (p. 19). Usually these gazelles run about in herds of ten does and one buck, but larger companies are seen, sometimes of fifty animals. In districts where they have not been worried by sportsmen they are easy to approach. When much shot at they are wary and cautious and as

they run, or intermingle with herds of other animals, give the alarm. Everyone who has made a careful stalk towards game has suddenly been annoyed by a "Tommy" jumping along wagging his tail and warning all the animals in the neighbourhood. An almost constant agitation of the tail is peculiar to this antelope.

When Captain Grant accompanied Speke in 1863, he saw a beautiful gazelle which has been named after him. It is common on the grassland of Kenya Colony and often runs with Thomson's gazelle. Both sexes of Grant's gazelle are horned; the horns of the buck are large, handsome, and more or less lyriform. They are thirty inches in length. Some specimens of this antelope weight 150 pounds. Among a herd of zebra, oryx, hartebeest, or giraffe, Grant's gazelle is a useful sentinel and gives timely warning of the sportsman's approach.

A graceful antelope, the impala (or palla), widely distributed in Kenya, is common in open bush and thinly wooded districts near water. Its horns are ringed and lyrate: they spread evenly, are only possessed by the male and many attain a length of thirty inches following the curve. The rings on its horns are imperfect. There are tufts of black hair at the back of the hind legs just above the foot. Each tuft surrounds an area of bare skin which is improperly described as a gland. The impala received the specific name *melampus* in consequence of the black tufts on its feet. A good-sized buck will stand three feet at the withers and weigh upwards of 150 pounds. Lions and leopards take a fair toll of them and they are a favourite prey of wild dogs. These gazelles run together in herds which may contain any number from ten to sixty. They are famous for

their powers of leaping, which is especially displayed when the herd is alarmed. They do not mix much with other antelopes but have been seen with oryx, hartebeest, and waterbuck. When scattered in an acacia grove I found it difficult to distinguish them among the trees



Fig. 73. Grant's Gazelle.

unless they moved. "Things in motion sooner catch the eye than what not stirs."

Although beautiful and graceful, impalas are very pugnacious among themselves and the bucks are apparently very jealous. Dugmore states that an amorous impala buck "is a beautiful sight," for it spreads, or displays, the long hairs of the rump, and the vertical dark streak on either side of the rosettes forms a natural border or fringe. The excited buck causes

consternation among the herd, emitting loud roaring grunts, chasing first one and then another of the does.

There appears to be some doubt in the minds of the zoologists whether the pretty little steinbok of Kenya is a variety of the steinbok so common and so well known in South Africa. Zoologists have been acquainted with



Fig. 74. Steinboks frequent open grass plains.

this little quadruped since the great circumnavigator Captain Cook visited the Cape of Good Hope in 1775. The males have a pair of horns nearly vertical and about two and a half inches long, and as their generic name (*raphiceros*) implies they are pointed and needle-like.

Steinboks, like duikers are often seen jumping—and diving—among the long grass in the Rift Valley; they are called “grass antelopes” by the settlers and in the

tall dry grass the colour of their coats makes them invisible except when they move. They were more easily seen after the grass had been fired, for when a steinbok "bolts" out of cover, and traverses the black patches left by a grass-fire, it becomes a conspicuous object and is secured with a shot-gun; their curious jumping movements and great speed make them difficult targets for rifles. I was more interested in watching the movements of these pretty antelopes than in destroying them, but they were welcome additions to the larder.

Gnu is the Hottentot name of the weird antelope which the early Dutch settlers of South Africa named the hartebeest; they regarded it as a wild form of domestic cattle.

Gnus indulge in extraordinary antics when a waggon or a horseman approaches their grazing-grounds. These excited movements are particularly odd on account of the extreme grotesqueness of the performer. The curious downward curving horns, the upright mane, the long hair on its face form a striking set of features worthy of such a droll comedian.

The white-tailed gnu is nearly extinct; it was very common in South Africa in the early part of the nineteenth century. The brindled species derived its name from the hair on its neck and the sides of its body being disposed in vertical bands of differently directed hairs.

The horns in the young gnus are straight spikes; as the animal becomes adult they curve downwards. It is strange that such a simple fact was not appreciated until 1889, a century after these animals were discovered by the Dutch settlers.

Wilbebeests are often seen on the Athi Plains. They are not so common or so widely distributed in Kenya as

hartebeests. The gnus suffered almost as badly as buffaloes and kudus from rinderpest, which ravaged East Africa in the last decade of the nineteenth century.

Perhaps the most characteristic antelope of the grass plains of East Africa is the ugly beast known as the



Fig. 75. The Wildebeest, or Gnu, in its antics.

hartebeest. No one can mistake this animal with its long narrow head, intensified by the frontal bones being produced into a high crest surmounted with big acutely angulated and strongly annulated horns. The high withers and tapering croup produce an ungainly appearance enhanced by the awkward gait of the animal, for a hartebeest when galloping suggests an animated rocking-

horse. Hartebeests can move quickly ; they are always watchful, alert, and, when grazing, guarded by sentries, usually old bucks with eyes as keen as those of a hawk. These sentinels often post themselves on an ant-hill in such excellent positions as to command the plain for a mile or more (see p. 205). Hunters dislike this animal, for it seems to be the self-appointed watchman of the grazing-ground, and its cry of warning will send various kinds of beasts, especially zebras, galloping over the plain. The hartebeest obtained its name from the early Dutch settlers in South Africa because it is so hardy, and so tolerant of severe injury.

The waterbuck is a noble animal and equal in size to a red-deer ; its head and horns make a trophy much sought after by hunters. The bucks are savage fighters among themselves, and the horns of the big bucks are often damaged in fights with rivals. The flesh of these antelopes is coarse, hard, and unpalatable even to Swahili porters. The tough hide makes excellent sandals.

Waterbuck lie up in forests along the banks of rivers and feed on the open grass flats outside the belts of forest and are shy animals. They seek refuge from pursuit in the water. Horns are present only in the males ; they are annulated, long, and peculiar in shape, and often exceed thirty inches in length.

Small species of waterbuck are known as kobs. The Baganda use a kob's antlers to ornament the prows of their boats.

XX

TERMITES—WHITE ANTS

EVERY Englishman visiting Tropical Africa for the first time has his attention arrested by the large mounds formed by termites. These large and curious structures are almost as constant features in an African landscape as cottages in the rural parts of the British Isles. Termites are often called white ants, but Smeathman, who wrote an account of them in 1781, distinctly mentions that although these insects live in communities, construct extraordinary nests, and are, like ants, omnivorous, they are by no means the same kind of insects.

Termites live in communities consisting of enormous numbers of individuals. Among them there are several forms, such as workers, soldiers, winged males, and females. The winged individuals are only present in the nest for a few days and then leave in swarms. In addition, there are the king and queen, which also lack wings, and therefore cannot leave the nest; the queen is enclosed in a cell. The continuance of the community depends entirely on the king and queen; and if the queen dies the community perishes. The queen has a remarkable appearance, for the abdomen, in consequence of the formation of the eggs within it, grows enormously, and these are discharged in such large quantities that Smeathman frequently observed old queens which

extruded sixty in a minute. As there is reason to believe that a queen lives several years, the number of eggs she produces is prodigious. The eggs, as soon as laid, are removed by the attendant workers to the nurseries, fed and watched until they are capable of taking care of themselves, and develop into workers, soldiers, and winged individuals.

The life-history of termites has not been followed in



Fig. 76. Termites.

A, Winged form ; near the base of each wing there is a lineal weakness along which the wings break off, leaving the stumps as short horny flaps ; B, female ; C, soldier ; D, worker.

great detail for several reasons. They live in communities concealed from observation ; isolated termites do not thrive ; and their growth is usually slow as compared with other insects.

The material used for the construction of a termite-tower is either earth, wood, or the excrement of the termites, and the large edifices constructed by them are so solid that they look like stone and so hard that it requires a pickaxe or a crowbar to demolish them. The

material out of which they are constructed is in some cases wood that has passed one or more times through the alimentary canal of a termite, and the material is cemented together by a secretion furnished by glands. Smeathman described the nest of *Termes bellicosus* as consisting of clay-like material cemented by their secretions to very firm consistence.

In some parts of the country nests or termitaria are so numerous that they seem clustered together like huts

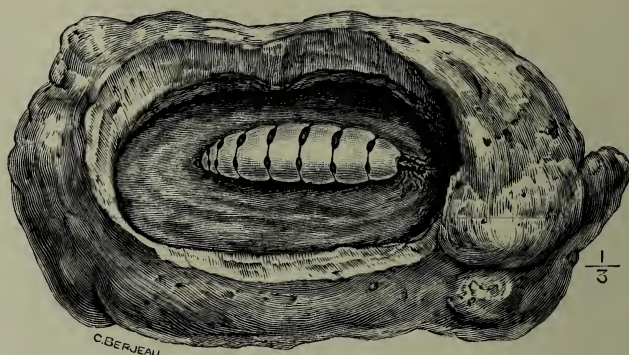


Fig. 77. The Queen in the Royal Cell. The abdomen, in consequence of the formation of eggs within it, grows enormously. The number of eggs she produces is prodigious.

in a native village, and they may be ten, twelve, and even eighteen feet high. Within these firm shelters the termites are protected from the vicissitudes of the weather and attacks from natural enemies.

The outer shell of the nest is not only useful to protect the community, but it preserves a regular degree of warmth which is very necessary for the development of the eggs and the growth of the young. The queen's cell is situated in the middle of the nest, and the entrances to it will not admit anything larger than the soldiers and workers. The royal cell is surrounded by a great number

of chambers of various shapes and sizes, all of which communicate and form an intricate labyrinth ; some of them contain food, such as raspings of wood and gum.



Fig. 78. A White-Ant Hill.

These chambers are by no means confined to the part of the termitarium above the ground, but extend into the earth below, and to parts far beyond that occupied by its base.

It is a remarkable feature of termites that the workers

and soldiers never expose themselves to light; they either travel underground or within trees and substances they can destroy. When in search of plunder above ground, their pathways are really covered-ways, for they build tunnels of the same material as the nest. Whenever the termites make a covered-way it has many ramifications, and if one of the covered-ways be destroyed by violence there are many avenues of escape without coming into the light. The galleries are large enough to allow them to pass each other. These insects are much disturbed when their covered-ways are broken, and quickly repair them, for the reason that when termites show above ground they are seized and destroyed by ants.

Some species of termites build nests in the tops of trees, but the passages leading to the nest run up the trunk of the tree under cover, so that the nest in the tree-top is in connection with a nest of galleries in the earth beneath.

On one occasion I saw a grove of trees with all the trunks covered with vertical lines of clay; of this curious appearance I find the explanation in Smeathman's paper: If a piece of dead-wood is covered with sound bark, they will eat all but the bark, which remains and exhibits the appearance of a solid stick. If they cannot trust the bark, they will cover the stick with their mortar and eat up the wood. Thus, when a large tree has fallen from age or violence, the termites will eat the woody part away, and a traveller finding a large trunk in his path steps upon it, when to his surprise it gives way and he falls among the neighbouring bushes. In this way termites play a useful part in tropical forests, as they keep it clear of dead trees and branches. As

soon as the sap ceases to flow through a tree the termites attack and quickly reduce it to powder. All would be well if these active insects confined their attention to dead or dying trees in a forest, but they eat leather as well as wood, and in countries where these destructive pests abound, the traveller must look to his impedimenta, for they eat the wooden store boxes, leather cases, saddles, boots, and similar things in a very short time ; metal and teak are the materials which will resist termites.

A. J. Hayes found termites especially numerous around Galabat on the Blue Nile, and mentions that they are not numerous at a distance from water, as they cannot work without moisture to renew the fluid that exudes from their mandibles, and which enters into the composition of the material of which they build their dwellings. The ant-hills from nine to twelve feet in height were usually built close to a soft-wood tree ; the roots of this tree had been attacked by the termites and converted into earth. The tree is the victim of a gale of wind, and, lying on the ground, it is soon converted into red compost by these indefatigable workers. In the dry months they convert straw and wood into red material. Hayes is strongly of opinion that much of the mud carried down the Nile is due to the activity of termites in the western borderland of Abyssinia.

Termites are blind, and when disturbed they express their alarm by hissing ; it is well established that they have means of communication by sound. The exact mode in which sound is produced remains unknown. Although blind they can inflict sharp bites.

In the winged state termites are much altered in shape and form. They have a pair of eyes and four wings, but

these differ from the wings of most insects, they are only used for a single flight, and are then shed by detachment at a suture which exists across the narrow part of the wing near the body, leaving four short stumps. They usually swarm just before the rains; emerging from the nest in myriads, they are preyed upon by birds, animals, and men. After shedding their wings they fall



Fig. 79. Boy collecting Termites.

to the ground and become available for reptiles and ants. The winged termites are the sexual form, and, on the ground, the males may be seen chasing the females, and in this stage they are the easy prey of ants.

The natives look for the swarming of termites with the same interest as sportsmen look for pheasants and the London poor for fresh herrings, and they secure them by very simple means. A network of boughs is built

around the hill and thatched with grass so that it looks like a miniature hut, and, if there are many nests in the neighbourhood, an appearance resembling a small village is produced. In Uganda a covering of bark-cloth is thrown over the nest: when the termites issue from the holes near the base of the nest they strike the roof and tumble into the receptacle set for them. When they swarm unexpectedly the natives use smoke and quickly bring them to ground. Many, of course, escape, and are pursued by every winged thing in the neighbourhood. Some of the birds become so gorged with these fat insects that they are unable to close their bills.

The natives often eat termites as they catch them; but it is more common to cook them or eat them when mixed with other food. European travellers have eaten termites, and Schweinfurth described them as a welcome addition to his slender larder, which helped to compensate for lack of grease. Smeathman states that he has eaten termites on several occasions and found them delicate, nourishing, and wholesome.

When a number of ant-hills are built in a wood among the trees and tall grass they look like a neglected cemetery, the termitaria resembling obelisks and grave-stones.

THE PANGOLIN OR SCALY ANTEATER

This curious animal with its scaly body, long tail, and short legs more resembles a reptile than a mammal. Like anteaters it lives on ants and termites. Its long tail forms part of its protective armour, for it can coil itself up into a ball like an armadillo. In order to keep their claws sharp they walk with them closed up against the feet, the backs only of the toes touching the ground.

From head to tail the pangolin is covered with scales and when rolled up hedgehog-fashion it looks like a huge fir-cone. It has a tubular mouth, a long tongue, and no teeth. The walls of the stomach are thick and it swallows small stones and pebbles to assist in grinding its food.

Captain Pitman¹ from first-hand observation has recently added to our knowledge of this curious animal which he describes as "prehistoric in appearance and the most amazing of Africa's denizens." When necessary it can travel at a fair speed, displaying a considerable agility. For safety it relies mainly on "the faculty of curling into a ball." With its powerful fore-paws it digs into the nests of the white ants "with furious energy." The white ants are its favourite food and these are captured by its long worm-like tongue.

Its wonderful digging power makes it difficult to keep a pangolin in confinement. In daylight it seems a half-blind, clumsy animal, but when darkness sets in it is a very different creature. Pangolins are not infrequently killed or injured on the road by cars. Pangolins have on several occasions been exhibited in the Zoological Gardens, London.

¹ Captain Pitman. *A Game Warden among his charges.* 1931.

XXI

BIRDS' BILLS

“Birds have neither lips nor teeth—the bill is hand and mouth in one.”—COUES.

THE bills of birds are used for offensive and defensive purposes ; also for constructing nests, and above all things for obtaining food, and for which purpose they are often strangely modified. Long thin bills are useful for obtaining worms from soft mud ; and long, strong, and sharp bills are used by herons and darters to secure slippery creatures like fish. Bills which are short, but strong and sharp, enable many birds to extract kernels of nuts, or grubs from the trunks and branches of trees ; with their powerful, sharp, and hooked bills, birds of prey are able to rend the carcasses of animals : ducks by means of flat spatulate bills, sift mud and ooze to obtain the organisms necessary for their sustenance ; with their stout beaks open-bills break shells of molluscs and extract the soft animal within.

The most delicate use of bills is in nest building. The neatness and beauty of many nests, especially those constructed by weaver-birds and humming-birds are always sources of admiration. Some birds with apparently clumsy bills build exquisite nests ; other birds with dainty bills make clumsy nests.

Many of the birds which live in Uganda have the largest and most curious bills known to ornithologists.

Among them are the shoebill, pelican, saddle-billed stork, ibis, marabou-stork, open-bill, heron, scissor-bill or skimmer, and the spoonbill.

The open-bill, a black, long-legged, stork-like bird which has a beak like a nutcracker—for the mandibles



Fig. 80. The Open-bill. A feather from the breast shows the expanded terminal part of the shaft; it is also slightly twisted on its axis.

cannot be closed in the middle—lives on frogs and fishes but its favourite food consists of fresh-water molluscs, especially the *Ampullaria*, the shells of which it crushes with this powerful bill. On account of its cleverness in this direction it has been called the “shell-ibis.”

The shafts of the feathers on the fore-neck and lower parts of the open-bill expand in the adult bird into flat

shining, horn-like plates at the tip. This terminal expanded portion is also partly twisted on its axis.

All educated men and women who visit the Nile Valley take keen interest in the sacred ibis. This bird was regarded with great veneration by the ancient Egyptians. Ornithologists are satisfied that *Ibis Æthiopicus* is identical with the sacred ibis of the Egyptians: in the form of Toth they deified it, and its body was often embalmed. The adult bird has a bare black head

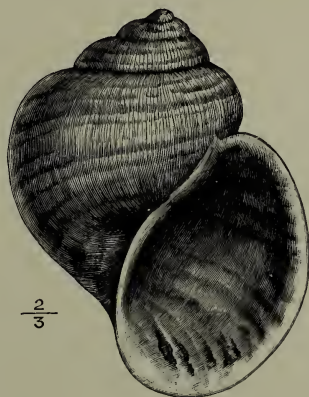


Fig. 81. Shell of the snail the favourite food of the Open-bill.

which earned for it the name of chimney-sweeper from the Dutch in South Africa. Young birds have the head covered with short feathers, and the head becomes bald about the second or third year. The bill is long, strong, and curved downwards like that of the curlew. Its chief peculiarity is a longitudinal groove on each side, leading from the nostrils at the base to near its tip.

The ibis is generally found along the shores of lakes and rivers, hunting for shell-fish, worms, and crabs: it also frequents mud-banks, probing the mud with its long bill.

In Lower Egypt the shape of the bill has won for this bird the name of "Father of the Sickle." It is common around the great lakes of the Rift Valley.

Hornbills are abundant in Uganda and in the Mau Forests and attract attention from the most casual observers, for they are big birds with great bills of curious shape, fly in a clumsy manner, and make a great noise in the forest. The natives do not eat them, and as their black and white plumage is not attractive, hornbills multiply and force themselves on the attention of travellers. In spite of the size of the bill the hornbill shows great dexterity in using it, for almost every morsel of food it picks up is tossed in the air, caught, and swallowed. The neatness with which these birds can catch with their bill may be tested any day at the Zoological Gardens, and they can hold a grape in their bill by means of its thin stalk. They live on fruit, flowers, berries, insects, eggs, and a general diet.

As if to atone for the heavy and apparently clumsy structure of hornbills, Nature seems to have done her best to make amends by lightening the heavy bill, by filling it with air-cells. It is well known that, in birds, the air-cells of the lungs communicate with cavities in some of the bones—which bones are said to be pneumatic. In the hornbills more bones are filled with air than is common in birds, and air also permeates the muscular interspaces and the subcutaneous tissues. These birds are devoid of fat beneath their skins. In many birds there is a gland near the root of the tail, known as the oil-gland. When birds preen themselves they dip their bills into this natural pomatum and rub it over their feathers. In some hornbills the grease supplied by the oil-gland is bright yellow, and if the

hand be rubbed over the feathers it will be stained with pigment.

Hornbills are not only odd in appearance and structure, but they have curious domestic habits. During incubation the hen plastered up in a hole in some hollow tree, her beak only protruding, is diligently fed by



Fig. 82. Hornbills.

the male bird until the chicks are hatched. Livingstone noticed this habit of the red-billed hornbill during his journey down the Zambesi, and it is shared by most of the arboreal species. The material used for fastening up the hole in the tree appears to be droppings from these birds; it dries and hardens like cement. It has been suggested that immuring the hen during incubation protects her from monkeys and other enemies.

The shoebill is an extraordinary bird ; it lives in the upper reaches of the White Nile and in the creeks of Lake Victoria near the Government station at Entebbe. These grotesque birds wade in open pools and shallows like herons, and feed mainly on fish. Shoebills are fond of resting on the tops of ant-hills. (A.L. Butler.)



Fig. 83. Darter, or Snake-bird.

The darter, or snake-bird, is found on the Nile and the lakes of East Africa. It posts itself on a dead bough overhanging a river, or the stump of a tree, a rock, or tufts of rushes, or a rush-island. It swims low, exposing the head and neck, or only the beak when danger threatens. When it dives into water hardly a ripple follows, and the feet are used as powerful paddles. The darter transfixes the fish on its bayonet-like bill with a

quick thrust. On coming to the surface of the water, the fish is jerked into the air, dexteriously caught, and swallowed, and the bird returns to a dead bough to spread its wings "to dry." The darter rises from the water with some difficulty, and in this act its powerful tail is of assistance. Darters feed as the sun declines, and are often seen in flocks. I have counted twenty roosting on one tree, which though leafless, was white with their excrement.

The skill they exhibit in securing fish is as amazing as their voracity, and the size of the fish they are able to swallow astonished me. On the White Nile I found in the stomach of a darter three fishes, one of which was as big as a herring.

The fish-spearing habit of the darter is aided by a peculiar mechanism in its neck. The first eight cervical vertebræ, especially the eighth, are modified and produce a kink in the neck: correlated with this modification are some powerful muscles which enables the bird to make a sudden and powerful thrust with its bill when it impales a fish. In order to facilitate the retention of the fish after it is transfixed, the edges of the darter's bill are furnished with fine needle-like points directed backwards.

The stomach of the darter contains, at its pyloric outlet, a sieve formed of hairs developed from the gastric epithelium. The lining of the stomach is sometimes shed more or less completely and a new one forms.

Cormorants, insatiable fish-eaters, abound in the Victoria Lake: swarming on the shores of every island and inlet. Around the Cascades of Jinja they are present in hundreds, helping the herons to whiten the

rocks and trees in the bays and recesses around the head of the Nile.

It is delightful when out on the lake in a steamer, or in a canoe, to watch the cormorants sitting on the small papyrus islands which float about Kavirondo Gulf. As the steamer approaches, they either fly away or dive beneath the surface of the water, and, like the darter, apparently disregard crocodiles.

When cormorants dive for fish they use the bill as a pair of forceps. Though they swim and dive to perfection, they rise from water clumsily, and their gait on land is an awkward waddle, but they perch with ease on rocks, posts, and boughs, when their upright position gives them the appearance of black bottles set out to dry.

Hérons of many species abound around the lakes of the Rift Valley and the Victoria Lake. These birds stand at the edge of a spit of land erect and stately—till suddenly a head darts forwards to seize a fish.

The pelican with its huge bill and pouch is a familiar bird. Although it appears clumsy, with short legs and big body, it can fly buoyantly and swiftly. A flock of pelicans manoeuvre in the air like a battalion of soldiers at drill. Pelicans frequent the big lakes.

The marabou-stork—the biggest bird that flies—is easily recognized by its huge and powerful bill and scabrous head with a few small feathers scattered about it. The huge pouch hanging in front of its neck is most conspicuous when the bird feeds. As if to make up for this deficiency about the head and neck, the bird is furnished with soft lower tail coverts, worn by fashionable ladies as marabou feathers. The curious pouch is filled with air and the bird can inflate it at will. The

marabou-stork is an efficient scavenger and may be seen sailing high in the air, and descends when it descries carrion. The vultures fear him when he drops among them whilst they are gorging on a carcass. The long and powerful bill earns for the marabou so much respect



Fig. 84. Marabou-Stork.

among carrion-eaters that he has been termed by the natives, and not inaptly, "the Master of the feast."

Marabous eat fishes, also termites when they swarm. I am not likely to forget the pleasure with which I watched at daybreak an enormous congregation of birds around a pool in the middle of a swamp, an acre in

extent, near Tewfikia (White Nile). There were thirty marabouts. The specific name of these birds, *Crumenifer*, signifies the bearer of a purse or money bag; they are caricature-likenesses of bald-headed vergers. Among the birds were twenty-three sacred ibises, looking like acolytes, a flock of white herons which arose like a cloud when I approached too near: seven tufted umbres, many plovers, and numerous wading birds. One of the party shot a marabou, and I found in the crop seven fishes of the size of sprats. The buzzards soon came around for the spoil.

The bills of herons and cormorants are admirable forceps for securing fishes; the darter is furnished with an excellent spear for transfixing such slippery food, and the pelican possesses an excellent scoop with which to catch them wholesale. There is another bird which frequents the Central African lakes and the White Nile, known as the skimmer or scissor-bill, with the most extraordinary bill ever designed for fishing. The bill and the bird are so peculiar that they are noticed by the least observant. The bill is flattened in the opposite direction to that of the spoonbill. It is thin and elastic like a paper-knife, and the two halves come together by their thin edges, but the lower half of the bill projects beyond the upper at least one-third of its length. During life the bill, except the terminal third of the lower half, is of the colour of a ripe orange, but it quickly fades after death to a dull yellow.

The skimmer is like a large tern (sea-swallow): by means of powerful wings it skims the surface of the water usually as daylight fades, with its mouth wide open, but in such a way that the lower half ploughs the water, and, as shoals of small fish rise in the evening hour, the bird



Fig. 85. The Skimmer, skimming.

secures a meal. Darwin gives an admirable description of the methods of this bird as he observed it on the Rio Parana and at Monte Video in 1883: "The water was quiet smooth and it formed a curious spectacle to behold a flock (of scissor-bills) each bird leaving its narrow wake on the mirror-like surface."

Scissor-bills are found in South and Central America and Asia as well as Africa. Livingstone's attention was attracted to them on the Zambesi in 1853: he describes their nesting habits. The nests are only little hollows



Fig. 86. The head of the Skimmer or scissor-bill. It is a tax on credulity to believe that this bill was designed for securing fish.

on the sand-banks without any attempt at concealment. The young are more helpless than the cheated stork with the flat dishes in the fable, and must have everything conveyed to their mouths by the parents.

Ornithologists often argue among themselves whether flamingoes are long-legged ducks or duck-billed storks: the question has never been settled. No one can deny that these long-legged and long-necked birds are particularly attractive on account of their curious shape, their beautiful coloration, and the strange modification of the bill which enables them to dabble in the mud and sift out the nutritious particles like ducks. When the duck is busy with the mud, the bill is so arranged that

the lower half is lowermost ; in the case of the flamingo, the terminal half of the beak is bent at such an angle that when engaged in mud-sifting, or in preening their feathers, the upper half of the beak fits the lower, which is the reverse of conditions found in birds generally. The odd shape of a flamingo's head and its apparent clumsiness on the end of a long neck reminds me of a golf-club.

The long neck and legs of the flamingo appear to some observers as awkward appendages to this bird. This is not the case. When flamingoes fly, the neck is stretched out in front and the legs behind, so that in full flight, head, neck, body, and legs form one straight line. The birds rise with difficulty from the marshes, uttering their *kronk-kronk-kronk* like a bronchitic fog-horn. Flamingoes appear awkward when they alight in the marsh, letting down their long legs and drawing them up again.

Many questions have been asked as to the way in which the flamingoes sit on their nests, which are low truncated cones of mud with a depression at the top for eggs, fashioned at the margin of a brackish lake. This cone varies from two to fifteen inches in height, and the flamingo sits on it with the legs doubled under her, and the neck folded on the trunk with the head directed forward (p. 130).

Flamingoes congregate in immense flocks, and when as is often the case in the secluded lakes of East Africa, they stand together like a regiment, the area occupied by them seems to be covered by a pink cloud. The rosy pink of the feathers and legs of these birds is exquisite. The colouring matter permeates the skeleton and persists when the bones are macerated. When they rise

on the wing, the black pinions (remiges) are exposed, and then the scarlet wing-coverts come well into the picture, forming a feast of colour. A flock of flamingoes rising from the water, leaves an impression which is never forgotten.

XXII

CRESTS

THE heads of birds are variously adorned by Nature. Some of them are ornamented with a fleshy comb, others carry wattles or gills about the gape, some have horny additions known as helmets, and many wear tufts of feathers known as topknots or crests and, in a few instances, as crowns. It is a distinction in the bird world to possess a crest. Ornithologists usually refer to this embellishment when they confer names on the happy possessors of topknots. All animals and plants receive at the hands of zoologists and botanists two names, one generic, a noun, and the other specific, an adjective; and generally referring to some peculiarity of habit, coloration, food, or personal appearance. These are chosen from the Latin language for the convenience of naturalists throughout the world.

The names of living things are not the same in all countries and often vary in different parts of the same country, but educated men throughout the world are familiar with Latin, which was formerly the universal language of science, therefore the application of generic and specific names derived from this language enables a zoologist to know the genus to which the animal belongs. The specific name often signifies some fact connected with it. Such reference in the case of a bird may convey information concerning its size, colour,

length of legs, breadth of wings, shape of tail, size of the bill and other details connected with this important structure, not only of colour, width, and length, but also the relation of the two parts to each other. The specific name often conveys information about the sounds the bird makes, in the way of a whoop, trumpet, song, chatter, warble, babble, or hum. It may tell of its disposition ;—sociable, solitary, or pugnacious. Sometimes the name of the country in which the bird lives is indicated, or it may be the name of the collector, or the ornithologist, who first made it “new to science.” Eponymous specific names are sometimes dignified with an initial capital.

Some scientific names are short and expressive : *Merops viridis* is a green bee-eater ; *Ardea alba* a white heron ; *Anas cristata*, a crested duck ; and *Haliaetus vocifer*, the screaming eagle. It often happens that a bird with a short name has a long one in ornithologic language. The entertaining brown and white chat so abundant and attractive around some of the lakes in the Rift Valley becomes *Myrmecocichla cryptoleuca* in the museum catalogue. The longest name belongs to the saddle-billed stork, *Ephippiorhynchus senegalensis*, for it consists of twenty-eight letters. The beak of this bird is nearly 27 cm. long, and the ugliness of the generic name equals that of the bird to which it is applied. In this instance the length of the name also coincides with the size of the subject, for it is a giant among birds. The spoon-billed sandpiper, *Eurynorhynchus pygmaeus*, runs this stork close for letters and for eccentricity of bill. Although such uncouth names excite mirth among the uninitiated, they are indispensable to the student.

The majority of birds possessing a topknot usually have this fact referred to in their common as well as their scientific names. Crested or *cristatus* is a title of distinction among birds, like a knighthood among men. The term crest applies to the plume on a helmet as well as to the mark of ownership on plate, livery, and stationery of one who has been dubbed a knight. All birds with crests can erect the feathery tuft: the most familiar example is the crest of the cockatoo. The feathers on the heads of many birds are larger than the contour feathers generally, but do not amount to a crest, although the bird can erect them partially when excited, courting, or engaged in combat.

The secretary-bird eats reptiles and snakes, and living in a country where venomous snakes abound, is protected. I watched with the deepest interest and pleasure one of these remarkable birds looking for things it could devour on the margin of a blackened area left by a grass-fire. When engaged in killing dangerous prey by stamping on them with its powerful feet, the wings spread, head held high and feathery tuft erect, it appears formidable enough for it stands four feet high. This bird has a good appetite and likes variety in food. In the stomach of one I shot near Cape Town there were found one tortoise, eight chameleons, twelve lizards, two quails, and remains of other animals. Bones, feathers, and other hard parts of the food formed into pellets are ejected from the stomach. In its encounters with poisonous snakes the secretary bird is sometimes fatally bitten.

Ornithologists have been puzzled in regard to the systematic position of this long-legged bird which outwardly resembles the cranes and storks. Those who

have closely studied its structure prefer to regard the secretary-bird as essentially a *hawk* on stilts.

Among birds with feathery crowns in Africa the hoopoe holds a prominent place, its conspicuous crest attracts the attention of the most casual observer, especially when the bird hops along the ground hunting



Fig. 87. The Secretary-Bird.

for insects and worms, tapping with its long bill. The hoopoe will also take flies on the wing.

The European hoopoe visits the Nile Valley and Kenya in winter. The African hoopoe has feathers of a deeper red than the European species and wing-markings differ. These noisy birds climb the trunks of trees in spite of their long tails and hunt for insects in the bark like woodpeckers.

The touracos, plantain-eaters or lowries, are peculiar to the African forests. They arrest attention either on account of the noises they make, or their beautiful plumage. Touracos are forest haunters and delight in pursuing each other between the trunks or among the branches of the highest trees. The noises they make resemble men bawling at each other, and similar animal sounds. A touraco thoroughly deserves the name of "noisy bird" (Lärmvogel) which Germans have given it.



Fig. 88. The Great Crested Touraco. This handsome coloured bird has an abundant but untidy topknot. The noise made by Touracos is one of the characteristic sounds of a Uganda forest.

These birds have short serrated beaks, eat bananas, the fruit of the papaw trees, insects, worms, and grubs. Their heads are decorated with conspicuous crests; many years ago on this account they were called "crowned birds." They fly with clumsy undulating flight, usually alighting with the crest erect and the tail upturned. As they hop about the branches the tail is in constant motion, the long feathers being expanded and

depressed. The crest in some touracos is a feathery mop, but the great crested touraco has an abundant feathery topknot.

Touracos are remarkable for their coloration, which is



Fig. 89. The Kavirondo have great respect for Crowned Cranes and tolerate them in the villages merely for their beauty. These birds are as tame as fowls in a barn-yard.

the same in both sexes. Some of them are as brilliantly coloured as parrots. In many the flight-feathers are crimson and yield a peculiar pigment, called turacin, which contains copper and may be reduced to powder. The colour is so soluble that it is washed out of the quill feathers by heavy rains, but it is renewed. The green in

these birds is due to the presence of green pigment in the feathers.

The most remarkable crest among birds belongs to the crowned crane, which is a very common bird around Lake Victoria. In winter crowned cranes frequent the banks of the White Nile in thousands. The crest of this beautiful bird is present in both sexes and differs from those of other birds in the peculiar character of the feathers composing the crown. The quills of the feathers are small and thin; each shaft (or vane) is twisted spirally and bears a few hair-like barbs, which, owing to the torsion of the shaft, projects on all sides of the axial line. The shaft is flat so that the twist gives the feathers the appearance of being banded alternately light and dark. The tips of the vane are dark. At Fashoda I had the opportunity of examining two chicks twenty days old: the crown was composed of ordinary feathers.

Cranes utter loud noises, which are increased by a peculiar arrangement of the windpipe, which is coiled up like a rope and lodged in a hollow space in the breast-bone. This converts the windpipe into a powerful trumpet. Crowned cranes differ from members of the crane family by possessing a straight windpipe. Everyone who has watched the antics of this bird has probably noticed that it puffs the upper part of the neck when dancing. This swelling of the neck is due to inflation of the distensible pharynx with air. The curious booming sound they emit (as noted by Hale Carpenter) in the rainy season preceding a storm is probably produced in the distended pharynx.

The Kavirondo have a great respect for crowned cranes, which are found in large numbers around the

lake: they tolerate them in the villages for their beauty. In the quiet of the evening these birds take up positions on the apex of the huts or on the flat top of a tall tree near the village, perched motionless on one leg, silhouetted against the sky, like sentinels.

Crowned cranes are pretty, tame, and most amusing when they perform their quaint antics. They dance to meet with nodding heads, necks advanced, and wings outspread, bowing and jumping in a grotesque manner. The Baganda are very fond of the crested crane owing to its beautiful plumage, and though they eat almost anything, forbid the eating of this beautiful bird.

The feather-crest or topknot is useful to birds; they use it for fascinating hens and terrifying enemies.

XXIII

WINGS AND TAILS

“Gavest thou the goodly wings unto the peacocks?”

JOB xxxix. 13.

THE ends of birds, like their limbs (wings and legs), are strangely modified. The variations of the tails of some birds which flourish in Uganda are worthy of consideration.

The profusion of bird life along the Nile Valley and around the lakes of Central Africa is wonderful, and so is its variety. Some of the biggest birds living on the earth to day may be seen here, in the shape of ostriches, bustards, storks, cranes, secretary-birds, eagles, vultures, herons, and pelicans. (Size always impresses.) Many of the smaller birds, such as bee-eaters, rollers, ibises, sun-birds, touracos, parrots, kingfishers, and glossy starlings are very beautiful. Some are very remarkable for their grotesqueness; among these are the whale-headed stork, skimmer, hornbill, flamingo, and the saddle-billed stork. Eccentricity of plumage is noteworthy in a few, such as the nightjars (goat-suckers), weaver-birds, egrets, and hammer-heads.

The first thing about Ugandan birds that attracted my attention was the number of them with peculiarly narrow tapering tails, and two which had a superabundance of tail-feathers. During my stay in Nairobi

the grass on the unoccupied land around the town was in flower and seed. These green patches were the favourite resort of flocks of weaver-birds, especially those known



Fig. 90. Jackson's Whydah Bird.

as Jackson's Whydah birds, which in shape, size, and colour resemble sparrows. At the breeding season the feathers of the cock undergo an extraordinary change, they become quite black with the exception of the long

feathers of the wings, and the tail-feathers elongate out of all proportion to their previous condition. When the bird flies the tail-feathers spread out like a parachute and arch in a peculiar way so that it seems to float rather than fly through the air, and in a breeze goes down wind helplessly. When the bird alights these long feathers diverge and cause it as much inconvenience as a long court train does to a lady. In addition to the extravagant growth of the rectrices, the primaries and secondaries undergo a compensatory enlargement to balance the bird in flight.

It is not uncommon around Nairobi to see a score of these long-tailed birds floating by means of their feathery parachutes over a grass-plot. At the end of the breeding season these long plumes drop off and then the cock, in matter of plumage, is similar to the hen.

Sir Frederick Jackson carefully studied these birds, and points out that the cocks make circular playgrounds for themselves in the grass in which they dance especially in the morning and late afternoon : hence they are called dancing birds. When these birds dance up and down in the grass the head is thrown back, the beak is horizontal, and the feet hang down. The tail is drawn up until it touches the ruff at the back of the head, the tips of the feathers falling in a curve downwards, with the exception of two tail-feathers which are held outwards and downwards. The wings, half-opened, are worked with a quick shivering motion, and the feet move up and down rapidly. As the bird springs up and down, the whole plumage is puffed out. Their dancing-rings are about two feet in diameter. There is a tuft in the centre, and the grass around it is broken quite close to the ground. There may be a score or more dancing-rings in an acre

of grassland. These birds associate with the Bishop finches, which, in the breeding season, blaze out in bright red and lovely orange feathers.

There is some confusion in regard to the names of these birds. Ornithologists call them Whydah birds (after a place of the same name on the West Coast of Africa): they are called weaver-birds, because they construct complex nests, and the Portuguese named them widow birds on account of their sombre plumage and long tails.

The coly or mouse-bird is sure to attract notice. It has a dainty topknot and a long tail. The legs are red and the toes have slender, prehensile claws, and all directed forward but the hallux and the outer toe can be turned backwards. The peculiar redness of the legs can only be appreciated in the living bird. It is curious to watch a coly alight on the trunk, or branch of a tree and then creep through the foliage like a mouse with nearly the whole of its leg applied to the branch. This bird, like the tits, often hangs head downwards. The coly prefers thickets to forests and is by no means shy; it frequents trees around houses in Nairobi. Colies have a bad reputation among the settlers; they steal ripe fruit. The plumage of the cock and hen is almost identical.

The colies dart about in flocks of six, eight, or ten. The Masai use their skins to decorate their heads.

Shrikes are noticeable, too. The scarlet-bellied bush-shrike is common in the thorn-orchards of the Sudan: it has a flute-like note, usually uttered from a thorn bush. The black and white shrike keeps a larder.

In gardens where the Mauritian hemp grows freely it uses the sharp, bayonet-like points of the leaves for

impaling victims, such as caterpillars, grubs, grasshoppers, frogs, and the like.

The sunbirds are flower-haunting birds ; the gorgeous metallic colours—crimson, purple, yellow, blue, and



Fig. 91. A Shrike, very common around Nairobi.

green—of their plumage are only excelled by humming-birds.

Their metallic coloration forms exquisite pictures as they flit about in the sunshine, or hang in all positions about the stems of flowering plants, since they are unable to poise themselves in the air like humming birds. The *Tecoma* is a flowering shrub common in the gardens

around Nairobi ; it has clusters of fairly large trumpet-shaped yellow flowers, and the perianth of the flower is too deep to permit the sunbird to reach the fundus with its beak. The bird overcomes this difficulty by pecking a hole in the perianth just above the fundus, and thus obtains easy access to the nectar and the insects it contains.

In some species of sunbirds the middle pair of tail-feathers is greatly elongated, and makes this beautiful bird very conspicuous as it flits restlessly from flower to flower, usually with its hen.

An attractive sunbird is found in flocks on the lobelia and the groundsel zone of Ruwenzori at an elevation of 12,500 feet up to 14,300 feet. They feed on the lobelias. In the Report of the Ruwenzori Expedition they are described as clinging to the side of the tall flower-spikes ; their legs held horizontally to keep the body away from the flowers, while they swiftly probed the long pale-blue tubes of the blossom with their curved beaks. The males are incessantly fighting with one another, or flirting with the females, and each pair seems to claim a district as its own, from which all trespassers are harshly and noisily chased. They have little or no fear of man, and one actually settled upon the barrel of Mr. Carruther's gun while he was standing still.

This reference to each pair of birds claiming a district and driving away trespassers is interesting, for when birds fight the combats are commonly regarded as "rows about hens" whereas they are often "struggles for territory." The English blackbird is pugnacious in regard to trespassers along his hedge and ditch. So, too, particularly the English robin.

It is common belief that Ugandan birds are deficient in

song. Livingstone did not share this opinion, for he wrote : “ African birds have not been wanting in song, they have only lacked poets to sing their praises, which ours have had from the time of Aristophanes downwards. Ours have had a classic and modern interest to enhance their fame.”

Many English birds delight us by their habits and associations ; a few charm us with song, but many make noises which can scarcely be called music, for example, crows, rooks, cranes, and jays. The songs, noises, and tricks of birds have been celebrated in phrase and fable from the earliest dawn of civilization. The hawk and ibis were worshipped by the ancient Egyptians, and in Christian worship some birds are symbols of the highest qualities of human nature. The dove is the symbol of the Holy Spirit and the human soul, as well as for tenderness and conjugal love. A pair of turtle doves yoked to the chariot of Venus conveyed the goddess of love through the skies.

The eagle, king of birds, was used as an emblem of empire by the Babylonians, Persians, and French, and as an omen of Victory by the Greeks and Romans. As the emblem of St. John it serves, with outstretched wings, as a lectern in many thousand Christian churches. Birds find a place in our literature, whether it concerns Religion, Art, Poetry, Fables, Caricature, Comedy, or Tragedy. Their names are so incorporated in our language that at least a hundred are used as surnames by the people, such as crow, rook, jay, raven, hawk, buzzard, gull, and finch, with several prefixes, such as gold, green, etc. The robin is so popular that its name is common as a Christian name as well as a surname. Many martins, swifts, swans, and drakes will be found in a Court Guide.



Fig. 92. The Coucal perching among papyrus rushes. The inset shows its powerful foot and long spur.

Now we are beginning to learn something of the language and social customs of the Buganda, it is clear that beasts and birds have a prominent place in their superstitions and fables.

Hollis has reduced to writing some instances from the folk-lore of the warlike and savage Nandi.

To them the francolin calls to the hyæna in the morning : Hide in the wood.

The lion growling says : The owner of a cooking-pot is lucky, he can cook his meat.

There is a small bird which builds a nest on the ground. To anyone going near it cries : Don't tread on my head.

When the intruder departs it laughs, and cries : I have told you lies.

When the ground hornbill is foraging, the hen calls to her mate : Peep, peep into these holes.

The cock replies : I have looked ! I have looked ! There is nothing !

People with ideas of this kind are not lacking in imagination. Æsop was a freed slave, probably an Ethiopian. Who can deny that a story-teller with the genius of Æsop or of Krylof may not exist in a Nandi village to-day.

There are sounds made by birds in Uganda and Kenya which should delight English ears. The diminutive long-tailed dove uttering its plaintive note in the woods of the Kikuyu country and around the lakes of the Rift Valley in the early morning is most fascinating. The ringing noises of the touracos in the wood are like human voices. Some of the birds have flute-like notes : those of the organ shrike denote the neighbourhood of water, and its bell-sound makes the listener fancy a blacksmith

is working near at hand. There are many species of larks. One known as Fisher's bush-lark, makes a peculiar noise with its wings. In the breeding-season as the bird soars it produces a peculiar rattle. Schillings aptly compares it to the sharp rhythmical clapping caused by rattling together small pieces of lath. The



Fig. 93. The Racket-winged Nightjar.

note is very deceiving, for it appears to come from near at hand, while the bird is high in the air.

A bird known as the coucal, or lark-heeled cuckoo (because of the long spur on its hind toe like that of the lark) haunts the papyrus swamps. It is clumsy on the wing and skulks in reed-beds, where it makes a peculiar whoop-whoop, and is often noisy in the early morning and at eventide. The coucal has powerful feet, which

enable it to clutch the smooth slanting stem of the papyrus, and slide down it like an acrobat. It looks very handsome when it perches in the middle of a papyrus umbel; its dusky white breast and belly and chestnut head, back, wings, and broad tail then show to advantage. Fig. 92.

One species of coucal makes a noise like water gurgling out of an inverted bottle. For this it is sometimes called the "water-bottle bird."

It is more common for the tail feathers to elongate in birds which assume an extravagant wooing-dress than those of the wings. But in nightjars the wing-feathers are strangely lengthened. The nightjar family has soft owl-like plumage, which is peculiarly modified in some species. Among those living in Africa, two, the racket-winged and the pennant-winged species, are remarkable for peculiar modifications of certain feathers in their wings.

The racket-winged nightjar has the ninth primary elongated in each wing: it appears with a long bare shaft and a racket-like tip. When flying in the dusk it gives the impression of being three birds—a big bird with two smaller birds mobbing it. Sometimes it resembles a fluttering kite. This species occurs in the Rift Valley and especially round Lake Baringo. These long feathers are only retained during the breeding season, and they are used for display. When wooing, the cock drops noiselessly on the ground in front of the hen and moves the wings in such a way as to wave the standards over his head in front of her. It is a mistake to suppose that these long feathers are moved independently of the wing: like the other secondaries their quills are fixed to bone.

Selous found the racket-winged nightjar very common along the River Chobe. He states that they lie very close during the daytime, and when disturbed only fly twenty or thirty yards and again alight and lie close to the ground. The hens lay their eggs on the bare ground, and when sitting will almost allow themselves to be trodden on before moving. On one occasion, he says,

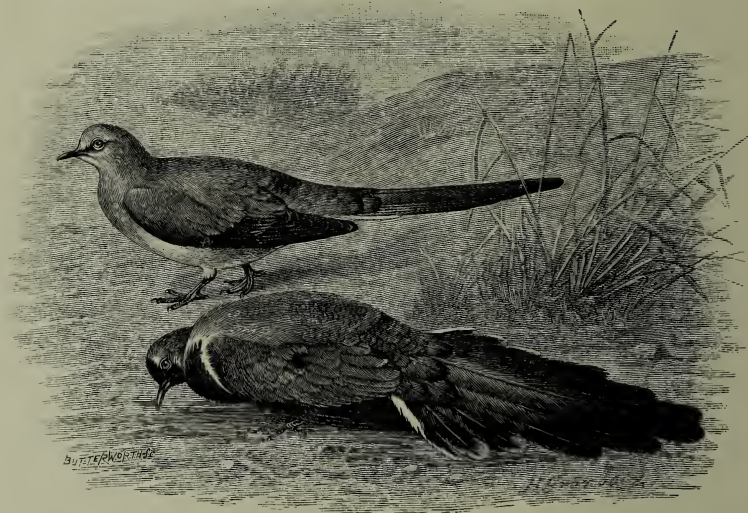


Fig. 94. The long-tailed African dove (*Æna capensis*). It is scarcely larger than a wagtail.

“four horsemen and about thirty Kaffirs walked past in single file within a yard of a sitting nightjar.”

The legs of nightjars are so short that the progress of these birds along the ground is little more than a shuffle. Their feet present other unusual features. The fourth or outer toe has only four phalanges instead of five and the claw of the middle toe is serrated. Nightjars are said to use this pectinated claw to detach the hooked claws and chitinous wings of insects on which they feed from the bristle-like feathers which fringe their mouths.

As in the case of other twilight-using birds, nightjars are occasionally seen flying at dawn. The scissor-bill from which the drawing on page 222 was made I shot at sunrise.

The tails of birds and beasts are often taken by the natives for personal adornment and use. Although the men and women disdain clothes they love to decorate their heads. Ostrich and Marabou feathers hold a high place in the scale of fashion among the Baganda.

The Masai wear a head-dress of ostrich feathers when raiding, in order to inspire terror (p. 71). The Karamojo, Suk, and Turkana stick feathers in their enormous head-dresses (p. 121). A British Field-Marshal wears a plume in his helmet which helps to emphasize his rank, but such feathers are usually obtained from the tail of a barnyard fowl.

The long hairs of a giraffe's tail are used as threads for sewing, or stringing beads. European sportsmen who shoot elephants, collect the horn-like hairs from the tails for their female relatives and friends to fashion into bracelets. British surgeons use hairs from a horse's tail for suturing wounds. The Masai employ the tuft of a gnu's tail as a fly-flap, and this is extremely useful in a land abounding in flies and gnats.



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